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**Satisfaction among Medical Students regarding Curriculum and
Teaching Methodology**

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DEDICATION

This thesis is dedicated to :

My Family

Father, Mohamed Osman and

Mother, Amna

who first gave me roots and then wings

My one brother and two sisters

My Teachers

My Friends and colleagues

And all who have participated to my educational journey once a time

With love and respect

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List of Acronyms and Abbreviations

| Acronyms and Abbreviations | Complete Word or phrase |
|-----------------------------------|---|
| AMSA | African Medical Students Association at IUA |
| DR | Dissection room |
| EMR | Electronic Medical Records |
| EDC | Medical Education Development and research Center |
| FM | Faculty of Medicine |
| GEQ | Graduate Exit Questionnaire |
| HRH | Human Resources for Health |
| IUA | International University of Africa |
| IMED | International Medical Education Directory |
| MCQS | Multiple Choice Questions |
| MD | Medicine Doctorate |
| MCAT | Medical College Admission Test |
| OSCE | Objective Structure Clinical Examination |
| OSPE | Objective Structure Practical Examination |
| PBL | Problem base learning |
| PPT | Power point |
| PHD | A Doctor of Philosophy Degree |
| Prof. | Professor |
| SPSS | Statistical Package for Social Science |
| TBL | Tutorial based learning |

| | |
|-------|---------------------------------------|
| UHC | Universal Health Coverage |
| UN | United Nations |
| USMLE | US Medical Licensing Examination |
| HRH | Human Resources for Health |
| UHC | Universal Health Coverage |
| UN | United Nations |
| UGME | Undergraduate Medical Education |
| WIFI | Wireless Network |
| WFMC | World Federation of Medical Education |
| USMLE | US Medical Licensing Examination |

Abstract

Background : Curriculum renewal is a part of an ongoing, multi-year process based on the research, recommendations and discussions of the Curriculum .An ongoing evaluation system is essential to determine if the new system is working to produce a better product

Objective: The aim of this study is to assess the satisfaction of medical students regarding different courses

Methodology: cross-sectional, facility-based study was conducted at International University of Africa, Faculty of Medicine (IUAFM), among students of clinical phase [semester 7,8,9,10] .The total number of the student is 163,and sample size was 116 comprised both male and female ,the tools and data collection techniques was interviews with students with a questionnaire, interviews with key medical educational professors (Prof. Basheer Hamad, Prof. Osman Elsheikh), Focus group discussion was conducted with 15 medical students.

Result: The overall response of students was positive ,They satisfied in nutrition biochemistry(31.9%-28.4%),GIT1(38.8%-35.3%),Endocrine system (37.1%-28.4%),CNS(37.9%-31.9%)Courses content and its credit hours ,these Courses were rated by students scored the top satisfaction . Regarding pharmacology(31%-35.3%) ,oral and dental health course satisfaction is (25.9%-31.9%) . Regarding result of focus group discussion they were not satisfied in two courses pharmacology and histology,high number of students in groups learning ,but they are not satisfied about OSPE of histology .Regarding to interviews the curriculum last updated before two years ,There is an annual workshop for assessment of the curriculum which raise recommendations but most are not implemented .

Conclusion: Findings show that all courses contents and credit hours are very good or good and some rated as neutral, student are not satisfied ,content and teaching of courses oral and dental health ,pharmacology and therapeutics . According to the group discussion findings students are not satisfied in the quality of teaching of basic science. furthermore Pharmacology and Anatomy and Histology courses are studied in short duration compared by the large content of the course student are not satisfied about the large number per group in PBL

المخلص

خلفية :

تحديث المنهج وتجديده يعتبر جزءا من المنهج الجاري متعدد السنوات ويعتمد علي البحث والتوصيات. ومناقشة البحث وتقييمه مهم جداً لتحديد ما إذا كان صالحاً في الحصول علي نتيجة مرضية .

الهدف : تهدف الدراسة لقياس مدي استفادة طلاب الطب من المقررات المختلفة .

طريقة البحث :

استهدفت الدراسة طلاب المرحلة السريرية من جامعة إفريقيا العالمية (الفصول الدراسية السابعة والثامن والتاسع والعاشر) والذين كان عددهم 163 طالباً اختير منهم ١١٦ طالباً كعينة للدراسة وتشمل الجنسين الذكور والإناث . كانت أدوات البحث وجمع المعلومات تعتمد علي مقابلات مع الطلاب إضافة إلى الاستبيانات ولقاء مع خبيري التعليم الطبي بروفيسير بشير حمد وبروفيسور عثمان الشيخ إضافة إلي عدد ١٥ طالباً.

النتيجة :

كانت استجابة الطلاب إيجابية وخلصت الدراسة إلي ان الطلاب قد استوعبوا مقررات التغذية وكيماوياتها الحيوية بنسبة (٣١.٩% - ٢٨.٤%) والجهاز الهضمي بنسبة (٣٨.٨% - ٣٥.٣%) والغدد الصم بنسبة (٣٧.١% - ٢٨.٤%) والجهاز العصبي (٣٧.٩% - ٣١.٩%) حاز محتوى هذه المقررات وساعاتها المعتمدة علي نسبة عالية في استطلاعات الطلاب عند مقارنتها مع المقررات الأخرى . وعكس ذلك تماماً فيما يختص بمادتي الدواء والتداوي (٣٥.٣% - ٣١.٠%) و مادة صحة الفم والأسنان (٣١.٩% - ٢٥.٩%) فقد كان الطلاب غير راضين تماماً فيما يتعلق بمحتواها وعدد ساعاتها المعتمدة . كانت حصيلة النقاش مع مجموعة من الطلاب المختارة أن محتوى المقررات الأساسية والساعات المعتمدة غير كافية إضافة إلي عدم جودة طريقة تدريسها خاصة مقرر الدواء والتداوي وعلم الأنسجة . وأثبتت الإفادات أن آخر تحديث للمنهج كان قبل سنتين ولكن هنالك ورش عمل سنوية للتقييم والتقويم شارك فيها الطلاب ورفعت توصيات ولكن لم تر النور بعد .

الخلاصة :

مناقشة الطلاب أفادت ان محتوى المقررات والساعات المعتمدة تراوحت تقديراته بين جيد جداً وجيد عدا مقرري صحة الفم والإنسان والدواء والتداوي وكان تقديرهما مقبولاً . كما أن الدواء والتداوي وعلم التشريح وعلم الأنسجة كانت مدة دراستها قصيرة مقارنة بالمحتوي الكبير الذي تشمله هذه المقررات . ويلاحظ كذلك العدد الكبير في كل مجموعة من مجموعات حل المشكلات لقلة عدد الأساتذة الذين يقومون بهذه المهمة .

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CHAPTER ONE

INTRODUCTION

Chapter One

Introduction

1. Background information:

International University of Africa, Faculty of Medicine (IUAFM) is located in Khartoum, Sudan. It aims to qualify medical doctors for the diagnosis and treatment of endemic diseases and other health problems. The curriculum is based on an integrated teaching and community oriented medical education. It awards the Bachelor degree of Medicine and Surgery after five years of study. Arabic and English are the languages of study.

The Faculty of Medicine (FM) of the International University of Africa has been founded in 1997 with the aim of graduating clinically competent and community oriented medical doctors and other health professionals who are going to function at various levels of the health system. The FM adopts an education program which has been designed on innovative approaches in medical education. The problem based, community oriented medical education approach which uses scientific knowledge and sound clinical skills integrated with behavioral, socio-cultural, and communication skills is planned to enable graduates to appreciate and solve health problems not only at the individual level but also at the family and community levels (1).

Medical curriculum is a statement of intended aims and objective ,content ,experience ,outcome and processes of an education and training program ,including a descriptive of the structure and expected methods of learning ,teaching feed back and supervision . Curriculum development is the process systematically organize what will be taught ,who will be taught,and how it will be taught, each component affect and interact with other component (2).

The school mission is to produce high quality academics and health professionals who are able and willing to improve the health system.

2. Problem statement:

Medical education is increasingly being acknowledged as an essential specialty in medical schools . Medical education departments are established in response to increased public expectations relating to healthcare, societal trends towards increased accountability, educational developments, and increased interest in what to teach and how to educate and train doctors. The functions of a department of medical education include research, teaching, service provision and career development of the staff. The scope of its activities includes undergraduate and postgraduate education, continuing professional development, and continuing medical education Harden emphasized the importance of making medical education training compulsory for medical teachers (3).

The health care delivery system is experiencing enormous flux. The knowledge and skills sets required of today's physicians include expertise in competency areas that have not been included in the traditional medical curricula. The undergraduate medical education in the 21st century will include innovative curricula that are addressing the competencies that enable the medical students to gain skills required to provide high-quality care and to cope with the modern health care (4).

A curriculum that does not keep pace with the needs of its learners, its faculty, its institution, its resources, patients, and society does a disservice to its constituents and is likely to deteriorate or die prematurely . Hence come the importance of assessment of the needs of the undergraduate medical curriculum in faculty of medicine(5).

The curriculum of International University of Africa (IUA) ,faculty of medicine was not update. Generally the curriculum of medicine are usually updates in short periods ,due to rapid flow of information . An ongoing evaluation system is essential to determine if the new system is working to produce a better product. This monitoring helps to determine whether corrective measures are indicated.

Assessment was conducted to identify gaps and redundancies in the current Undergraduate Medical Education (UGME) program and to make recommendations for changes based on its findings and to clarify inadequate credit hours for some courses and inadequate training of basic science and also Need redistribution due to advances in Medicine .regular assessment of the curriculum defines the key competencies needed for medical education and practice, and is fundamentally an initiative to improve patient care and also paired with the medical school accreditation standards to support a framework for future evaluation for the purposes of accreditation.

This research provides an overview of the needs assessment approach and methodology, as well as the resultant identification of curriculum needs, and recommendations for changes to the curriculum based on the needs.

3. Justification:

Due to the rapid flow of information ,medical education experts believe in speeding curriculum reviews and involving the stakeholders (medical student) .The approach to this needs assessment included the support of a leadership team to lead the curriculum renewal work overall, with a project team and Advisory Committee for the needs assessment itself, as well as a newsletter on MUN's Medical School website providing ongoing updates and opportunities for feedback.

-As part of this renewal, a needs assessment to identify gaps and redundancies in the current Undergraduate Medical Education (UGME) program and to make recommendations for changes based on its findings. The health care needs of the province.

-The study will help in clarifying the gap in the curriculum from different views .

-The study is expected to help the WFMC (world Federation of Medical Education) coordination efforts .

-The profile of Newfoundland and Labrador, and its current and future health needs, provided a background for planning a new curriculum based on the needs of the population including:

- Health human resource challenges, and geographic diversity, with the subsequent need for providers to work together differently
- The high rates of chronic disease, including obesity
- The focus of the provincial government on the Wellness strategy
- The aging population
- Increased availability, and use of, information technology including increased use of Electronic Medical Records (EMR's)
- The consideration of present and future research to ensure evidence based practice

4. Objectives:

4-1 General objective :-

-To assess Satisfaction among Medical students regarding Curriculum and Teaching Methodology of the faculty of medicine in order to help the IUA to improve the level of education .

4-2 Specific objective :-

- To assess the satisfaction of medical students regarding different courses.
- To Identify satisfaction among students regarding teaching methodology .
- To assess The Curriculum development processes .

CHAPTER TWO

LITERATURE REVIEW

Chapter Two

Literature review

Curriculum renewal is part of an ongoing, multi-year process based on the research, recommendations, and discussions of the Curriculumⁱ. A comprehensive evaluation program has been implemented to determine the extent to which the goals of the “Next Generation” curriculum are being met (6).

An ongoing evaluation system is essential to determine if the new system is working to produce a better productⁱⁱ. The relationship between the administrative structures of the medical school and the teaching hospitals, the other responsibilities of teachers and administrators, and the intricacies of the curriculum as a system of inter related components means that any new change has wide repercussions . The students are the direct beneficiary or benefactor of the system and today in many parts of the world graduates are required to complete an assessment of their curricular program for evaluation and feedback (7) .

There is a scarcity of data about satisfaction level among medical students in regards to their academic activities. This is associated with impaired learning in third world countries like Sudan , where resources are limited and budgetary allocation to health inadequate. In this scenario our study carries huge implications for revolutionizing teaching and assessment patterns in medical training. This could potentially be due to the fact that very few studies to evaluate the satisfaction level have been carried out in the context of the local student population in underdeveloped countries where the prevalence of satisfaction levels is not known due to secondary importance being attached to education. Hence to determine the discrepancies and shortfalls in the current academic system in International University Of Africa ,Faculty Of Medicine , a comprehensive study was carried out to establish the student level of satisfaction with the curriculum and what measures can be placed in the future to rectify the situation (8).

Electronic database searches were conducted with the assistance of a librarian at international University of Africa , all database searches were restricted to articles published in English language.

Descriptive, Institutional studies in Khartoum state / International University Of Africa, Faculty of Medicine ,in student of clinical phase (semester 7, 8 ,9 and 10) ,The total number of student is 326 and sample size was 116 male and female .

The information was gathered through using available information, Interviewing and Administering written questionnaire and check list .

Before Administering written questionnaire pretest was done for group of student to avoid misunderstanding and obtain true result , some difficulty was found and change it and became easy to the students .

1. Medical education:

Medical education is education related to the practice of being a medical practitioner; either the initial training to become a physician (i.e., medical school and internship), or additional training thereafter (e.g., residency and fellowship).

Medical education and training varies considerably across the world. Various teaching methodologies have been utilized in medical education, which is an active area of educational research Entry-level education.

2. Medical school:

Faculty of Medicine (Comenius University in Bratislava) Slovakia, Entry-level medical education programs are tertiary-level courses undertaken at a medical school. Depending on jurisdiction and university, these may be either undergraduate-entry (most of Europe, Asia, South America and Oceania), or graduate-entry programs (mainly Australia, North America). Some jurisdictions and universities provide both undergraduate entry programs and graduate entry programs (Australia, South Korea).

In general, initial training is taken at medical school. Traditionally initial medical education is divided between preclinical and clinical studies. The former consists of the basic sciences such as anatomy, physiology, biochemistry, pharmacology, pathology. The latter consists of teaching in the various areas of clinical medicine such as internal medicine, pediatrics, obstetrics and gynecology, psychiatry, general practice and surgery. However, medical programs are using systems-based curricula in which learning is integrated, and several institutions do this. In the United States, until quite recently,[when?] the requirements for the M.D. degree did not include even one course in human nutrition. Today, this omission has been rectified, at least to the extent that one such course is required.

There has been a proliferation of programmes that combine medical training with research (M.D./Ph.D.) or management programmes (M.D./ MBA), although this has been criticised because extended interruption to clinical study has been shown to have a detrimental effect on ultimate clinical knowledge .

The mission of the Office of Undergraduate Medical Education is to administer an educational program towards the MD degree that:

- Provides students with the knowledge, skills, attitudes and habits they will need to practice safe, effective, ethical, evidence-based and patient-centered medicine in the 21st century
- Integrates the basic science and scholarly foundations of medicine with clinical sciences
- Is informed by, and contributes to, an evolving understanding of learning science .

The program is:-

- Grounded in the principle that the health of populations can and should be related to the education of health professionals
- Aligned with Vanderbilt's mission to produce leaders and scholars in medicine. In addition to a core foundation for the entire spectrum of specialties and careers, including clinical medicine in academic, community, or international settings, students have opportunities to explore clinical and basic science investigation, health services research, health policy, medical education or administration, or any combination of the above.
- Learner-centered material is presented in a logical, integrated sequence, using teaching methods that are appropriate for specified learning objectives, with expectations that are appropriate for the learner's stage in development as a physician.
- The Office of Undergraduate Medical Education embraces the principle that the best curriculum is one that mirrors the values of the medical profession. Our educational leadership constantly strives for excellence, responds to and incorporates changes in medical knowledge and practice, treats all members of the learning community with respect, and seeks best evidence to inform curricular design and implementation.

The Office is also dedicated to the principles of continuous quality improvement and students have an active voice in the curricular review process. Courses are reviewed at the year-team level and by the Undergraduate Medical Education Committee. Multiple venues exist to foster communication among course directors, within a given year and across years, to ensure a cohesive and purposeful curriculum.

3. WFME –WORLD FEDRATION FOR MEDICAL EDUCATION:

World Federation for Medical Education(WFME) is a non-governmental organization concerned with education and training of medical doctors worldwide. WFME's main objective is to "enhance the quality of medical education worldwide, with promotion of the highest scientific and ethical standards in medical education". The organization develops standards for medical education and promotes accreditation of medical schools. It also co-manages the World Directory of Medical Schools.

WFME works in partnership with its six Regional Associations for Medical Education and other international organizations including the World Health Organization and the World Medical Association,with WFME's associate members, and with medical schools worldwide (9).

4. Accreditation:-

The accreditation of medical education the certification of the suitability of medical education programme, and of the competence of medical schools in the delivery of medical education – ensures patient safety and competent practicing doctors. Accreditation of medical education is normally carried out by national governments, or by agencies receiving their authority from national governments.

5. Global strategy on human resources for health:-

Objective of the WHO (2016) Global Strategy on Human Resources for Health, Workforce 2030 is that 'by 2020, all countries will have established accreditation mechanisms for health training institutions' Global strategy on human resources for health,Workforce 2030.

In May 2014, the Sixty-seventh World Health Assembly adopted resolution WHA67.24 on Follow-up of the Recife Political Declaration on Human Resources for Health, renewed commitments towards universal health coverage. In paragraph 4 of that resolution, Member States requested the Director-General of the World Health Organization (WHO) to develop and submit a new global strategy for human resources for health (HRH) for consideration by the Sixty-ninth World Health Assembly.

The Global Strategy on Human Resources for Health, Workforce 2030 is primarily aimed at planners and policy-makers of WHO Member States, but its contents are of value to all relevant stakeholders in the health workforce area, including public and private sector employers, professional associations, education and training institutions, labour unions, bilateral and multilateral development partners, international organizations, and civil society.

The development of the Global Strategy was informed by a process launched in late 2013 by Member States and constituencies represented on the Board of the Global Health Workforce Alliance, a hosted partnership within WHO (whose mandate came to fruition in May 2016). Over 200 experts from all WHO regions contributed to consolidating the evidence around a comprehensive health labour market framework for universal health coverage (UHC). A synthesis paper was published in February 2015 and informed the initial version of the draft Global Strategy.

An extensive consultation process on the draft version was launched in March 2015. This resulted in inputs from Member States and relevant constituencies such as civil society and health care professional associations. The process also benefited from discussions in the WHO regional committees, technical consultations, online forums and a briefing session to Member States' permanent missions to the United Nations (UN) in Geneva. Feedback and guidance from the consultation process are reflected in the document, which is also aligned with, and informed by the framework on integrated people centered health services.

6. Standards:-

The WFME standards are a global expert consensus on the standards for medical schools and other providers of medical education throughout the continuum of medical education and training, Basic Medical Education, Post Graduate Medical Education, and Continuing Professional Development. The standards are divided into basic standards (minimum requirements) and quality improvement standards, accompanied by annotations and definition.

Standards are not a universal core curriculum, and they do not define the detail of the content of education. Diversity of educational programme must be fostered, to account for different educational, social, economic and cultural conditions, different patterns of disease, and to support social responsibility. The standards provide a template for medical schools and other providers of medical education, and the agencies which accredit them to define institutional, national and regional

standards, and to act as a lever for quality improvement. Not all of the WFME standards will be relevant in every setting.

7. WFME programme on global standards in medical education has three main aims:--

- to stimulate authorities, organization and institutions having responsibility for medical education to formulate their own plans for change and for quality improvement in accordance with international best practice.
- to establish a system of national and/or international evaluation, accreditation and recognition of medical educational institutions and programme to assure minimum quality standards for the programmers.
- to safeguard practice in medicine and the medical workforce in the context of increasing internationalization .

8. World Directory of Medical Schools:-

The World Directory of Medical Schools (World Directory) is a free, searchable directory of the world's undergraduate (basic) medical education programs. It contains information for over 2,900 schools, both operational and historical. Each record highlights available school details including start year, school type, operational status, programme details and contact information. The World Directory brings together the information previously contained in the WHO World Directory, the International Medical Education Directory (IMED) and Avicenna directories. Since its inception in 2014, there have been over 400 medical schools added to the directory.

A listing in the World Directory confirms that the medical school exists, but it does not denote recognition, accreditation, or endorsement by the World Directory, WFME, FAIMER or any of the sponsoring organizations unless expressly stated.

The Integrated Direct Observation Clinical Encounter Examination (IDOC EE)-an objective assessment of students' clinical competence in a problem-based learning curriculum:-

The College of Medicine of the Arabian Gulf University in 1996 replaced this type of examination for its final MD Graduating Class by a performance-based clinical examination 'The Integrated Direct Observation Clinical Encounter Examination' (IDOC EE) in which the student's clinical competence is tested during his encounter with four or five real patients having a mix of clinical problems under

direct observation by a panel of between four and six examiners from different disciplines, over a 2 hour period. Seventy four students were examined by 26 examiners. In order to test the students' and examiners' satisfaction with this type of examination, a structured questionnaire was used. The response was as follows: 98% of the students were satisfied by the examination structure and organization, 94% with its effectiveness in testing student clinical competence, and 97% with the examiner's attitude and approach; 96% of the examiners expressed satisfaction with the examination structure and organization and 97% with its ability to test clinical competence. This experience indicates that the IDOCEE is a practical and cost-effective assessment tool of student's clinical competence, and it can replace the traditional discipline-based clinical examinations (10).

9. Problem-based learning (PBL):

PBL was pioneered by the Mc Master Medical School in Canada in 1969 and soon, thereafter many medical and health institutes across the world adopted this innovative approach. Problem based learning is used in many medical schools in the United Kingdom and worldwide .

10. What is problem based learning?

In problem based learning (PBL) students use “triggers” from the problem case or scenario to define their own learning objectives. Subsequently they do independent, self directed study before returning to the group to discuss and refine their acquired knowledge. Thus, PBL is not about problem solving per se, but rather it uses appropriate problems to increase knowledge and understanding. The process is clearly defined, and the several variations that exist all follow a similar series of steps.

11. PBL in curriculum design:

PBL may be used either as the mainstay of an entire curriculum or for the delivery of individual courses. In practice, PBL is usually part of an integrated curriculum using a systems based approach, with non-clinical material delivered in the context of clinical practice. A module or short course can be designed to include mixed teaching methods (including PBL) to achieve the learning outcomes in knowledge, skills, and attitudes. A small number of lectures may be desirable to introduce topics or provide an overview of difficult subject material in conjunction with the PBL scenarios. Sufficient time should be allowed each week for students to do the self directed learning required for PBL.

12. The principles of PBL - Problem Based Learning:

- i. Learner-driven self-identified goals and outcomes.

- ii. Students do independent, self-directed study before returning to larger group.
- iii. Learning is done in small groups of 8–10 people, with a tutor to facilitate discussion.
- iv. Trigger materials such as paper-based clinical scenarios, lab data, photographs, articles or videos or patients (real or simulated) can be used.
- v. The Maastricht 7 jump process helps to guide the PBL tutorial process.
- vi. Based on principles of adult learning theory.
- vii. All members of the group have a role to play.
- viii. Allows for knowledge acquisition through combined work and intellect.
- ix. Enhances teamwork and communication, problem-solving and encourages independent responsibility for shared learning - all essential skills for future practice.
- x. Anyone can do it as long it is right depending on the given causes and scenario.
- xi. We can be champions and holder of a vocational degrees.
- xii. It depends upon the cases and the scenario the building of curriculum lesson.

13. PBL tutorial process:

Step 1—Identify and clarify unfamiliar terms presented in the scenario ,scribe lists those that remain unexplained after discussion .

Step 2—Define the problem or problems to be discussed students may have different views on the issues, but all should be considered scribe records a list of agreed problems.

Step 3—“Brainstorming” session to discuss the problem(s), suggesting possible explanations on basis of prior knowledge students draw on each other's knowledge and identify areas of incomplete knowledge scribe records all discussion.

Step 4—Review steps 2 and 3 and arrange explanations into tentative solutions; scribe organizes the explanations and restructures if necessary.

Step 5—Formulate learning objectives group reaches consensus on the learning objectives; tutor ensures learning objectives are focused, achievable, comprehensive, and appropriate .

Step 6—Private study (all students gather information related to each learning objective)

Step 7—Group shares results of private study (students identify their learning resources and share their results) tutor checks learning and may assess the group.

14. Advantages of PBL

- Student centered PBL—It fosters active learning, improved understanding, and retention learning skills.
- Generic competencies—PBL allows students to develop generic skills and attitudes desirable in their future practice.
- Integration—PBL facilitates an integrated core curriculum.
- Motivation—PBL is fun for students and tutors, and the process requires all students to be engaged in the learning process.
- “Deep” learning—PBL fosters deep learning (students interact with learning materials, relate concepts to everyday activities, and improve their understanding).
- Constructivist approach—Students activate prior knowledge and build on existing conceptual knowledge frameworks.

15. Disadvantages of PBL:

- Tutors who can't “teach”—Tutors enjoy passing on their own knowledge and understanding so may find PBL facilitation difficult and frustrating .
- Human resources—More staff have to take part in the tutoring process.
- Other resources—Large numbers of students need access to the same library and computer resources simultaneously.
- Role models—Students may be deprived access to a particular inspirational teacher who in a traditional curriculum would deliver lectures to a large group .
- Information overload—Students may be unsure how much self directed study to do and what information is relevant and useful(11) .

16. Summary of PBL:

PBL is an effective way of delivering medical education in a coherent, integrated programme and offers several advantages over traditional teaching methods. It is based on principles of adult learning

theory, including motivating the students, encouraging them to set their own learning goals, and giving them a role in decisions that affect their own learning. Predictably, however, PBL does not offer a universal panacea for teaching and learning in medicine, and it has several well recognized disadvantages. Traditional knowledge based assessments of curriculum outcomes have shown little or no difference in students graduating from PBL or traditional curriculum's. Importantly, though, students from PBL curriculum's seem to have better knowledge retention. PBL also generates a more stimulating and challenging educational environment, and the beneficial effects from the generic attributes acquired through PBL should not be underestimated.

17. Next Generation” Cells to Society Curriculum :-

-The University of Virginia School of Medicine is changing how medicine is learned. In August 2010, members of the class of 2014 will be the first to learn under the innovative “Next Generation” Cells to Society Curriculum.

-Next Generation” eschews the traditional split of basic and clinical sciences and, instead, employs a system-based learning experience that has deeper integration of basic sciences into clinical medicine, is oriented to clinical performance, and uses the best evidenced-based models for medical education to foster student learning. The five goals of the “Next Generation” Curriculum are:

- Assure that all graduates demonstrate mastery of the 12 UVA School of Medicine Competences Required of the Contemporary Physician;
- Integrate content around organ systems;
- Integrate basic and clinical sciences within each educational experience and across all phases of the curriculum;
- Incorporate experiential and active-learning activities; and
- Provide frequent developmental activities for clinical skills.

18. How was the “Next Generation” curriculum developed?

Curriculum renewal is part of an ongoing, multi-year process based on the research, recommendations, and discussions of the Curriculum 2020 Project, the Working Group on Clinical Skills Education, and the Education Task Force. Over 100 faculty, decision scientists, educational technology specialists,

faculty development experts, instructional designers, and students worked to create the new curriculum from 2008 to 2010 when the Class of 2010 matriculated.

Basic science and clinical faculty leading each system unit are selected for their teaching skills, subject matter expertise, and professional experience. Visit this list to see who is leading each organ system unit, each content/discipline thread, and the evaluation community. The Claude Moore Medical Education building serves as the nucleus of the “Next Generation” Cells to Society curriculum, featuring innovative learning spaces and groundbreaking educational technology. See drawings and a summary of the technology in the new building.

- The building integrates small-group learning and individual instruction with state-of-the-art educational spaces including the “Learning Studio,” a technology-enabled active-learning classroom that provides an interactive, hands-on learning environment in which students work collaboratively in small groups.
- The building also provides space for students to learn and refine interpersonal and clinical skills in a single environment for clinical performance and education-the Clinical Performance Education Center (CPEC). Housing the Medical Simulation Center and the Clinical Skills Center (standardized patient program), CPEC provides students myriad opportunities to practice and demonstrate competency in cognitive and psychomotor skills in simulated clinical settings(16).

19.Previous studies :

To determine the level of satisfaction among medical students of a public sector medical university regarding their academic activities 2011:-

The study was to evaluate the satisfaction level among medical students regarding their academic teaching and assessment method and what measures will they suggest for the future to rectify the current situation. questionnaire was administered to a random sample of 375 final year medical students.

- They found that ,male to female ratio in our study was 1:2. Most of the students (57.2%) were dissatisfied with the quality of teaching in the university. Fifty-seven percent of the participants believed that the current standard of their institute were not at par with those of international medical universities. BCQ's were the mode of examination questions preferred by the majority of the students.

Most of the students (66.1%) wanted the university to conduct career planning seminars to help them plan their career (8).

Satisfaction of Students and Academic Performance in Benadir University 2016 :

-The aim of this study to examines the role of satisfaction on students' academic performance and investigates the relationship between satisfaction of students and academic performance and explores other factors that contribute academic performance. A correlation research was used..

-The study population was the third and the last year students of Benadir University in Mogadishu, Somalia and a sample of 133 were drawn. A questionnaire was used in the study to collect the data from the respondents and analyzed by using correlation statistics.

-They found that there is strong relationship between satisfaction of students and academic performance as Pearson correlation . The study also found that satisfaction promotes both academic achievement and student retention. (23).

Evaluation of undergraduate medical education in Finnish community-oriented and traditional medical faculties: a 10-year follow-up 2000.

This study focused on Finnish physicians' views of their undergraduate medical education. Differences between traditional and community-oriented medical faculties, The study was based on data retrieved from a postal survey made among Finnish physicians in 1998. The study population consisted of all doctors who graduated between 1987 and 1996 (n=4926); those born on odd-numbered days were selected for this study (n=2492). A postal questionnaire and two reminders were sent to those selected, and 1822 questionnaires were returned, giving a response rate of 73.1%.

-They found that Physicians who graduated from the community-oriented faculties were more satisfied with their undergraduate medical education when compared with their colleagues graduating from traditional faculties. There were some differences between the universities with respect to education for hospital work. The teaching of primary health care, however, was clearly more effective in community-oriented faculties. The proportion of graduates who were satisfied with their primary care

education was over 70% in community-oriented faculties, whereas in the traditional faculties it was only 35-45%

-According to graduates, the community-oriented medical school curriculum better meets the needs of practicing physicians than that in traditional faculties. In curriculum reforms, more emphasis should be placed on comprehensive medical education, which includes both primary and secondary health care (11).

A progressive three-phase innovation to medical education in the United States :-

Undergraduate medical education has become cost-prohibitive for students interested in primary care. In the meanwhile, the concept of a separate dedicated intern year is outdated and mired in waste despite remaining a requirement for several hospital-based and surgical specialties. Described here is an innovative approach to medical education which reduces tuition costs and maximizes efficiency, based on principals already employed by several schools. This integrated curriculum, first suggested by the author in 2010, keeps the current USMLE system in place, exposes medical students to patient care earlier, expands and incorporates the 'intern' year into a four-year medical training program, provides more time for students to decide on a specialty, and allows residency programs to acquire fully-licensed practitioners with greater clinical experience than the status quo.

-changes have been applied to both the Medical College Admission Test (MCAT-new medical college admission test] -and the US Medical Licensing Examination (USMLE) New features in step 1 and step 2 CK examinations. to reflect modern trends in examination preparation and testing science, the need to consider widespread changes to the way we train physicians has never been more vital.

- They found that the Pfeifer curriculum offers a new way to build on the successes of accelerated preclinical pathways and capitalize on the benefits of modern three-year medical curriculum plans. Through the reduction of wasteful elements of the current system, a new paradigm in which all three steps of the USMLE can be taken within a four-year framework would emerge (18).

Undergraduate medical education: comparison of problem-based learning and conventional teaching 2000:

Studies and meta-analyses that compared the newer problem-based learning curriculum and the conventional lecture-based mode of teaching undergraduate medical students. Areas of comparison included the academic process; programme evaluation; academic achievement; graduates' performance, specialty choices, and practice characteristics; and the attitude of students and teachers towards the programme.

-They found that Students of the problem-based learning curriculum found learning to be "more stimulating and more humane" and "engaging, difficult, and useful", whereas students of the conventional curriculum found learning to be "non-relevant, passive, and boring". Students who used the problem-based learning method showed better interpersonal skills and psychosocial knowledge, as well as a better attitude towards patients. Students using the conventional model, however, performed better in basic science examinations. Teachers tended to enjoy teaching the newer curriculum. Although the two curricula encourage different ways of learning, there is no convincing evidence of improved learning using the problem-based learning curriculum.

- combination of both the conventional and newer curricula may provide the most effective training for undergraduate medical students. (13).

The impact and significance of small and large group teaching and learning in medical curriculum 2015:

The aim of this study to explore role of small and large group teaching and learning in first year medical undergraduate students in promoting the most meaningful teaching and learning experiences for medical anatomy.

Result : they found that suggest both small and large group teaching has its advantages and disadvantages, but the impact left by small group teaching and learning is far greater as it is observed that through this process the student remain more focused on the problems they encountered or didn't understand while learning. Small group teaching sessions were also highly interactive and enabled further discussion on complex topics. In conclusion, large group teaching and learning is essentially a

one way process, while small group teaching is more focused, interactive, and leads to the development of concepts/principles (24).

Satisfaction from Academic Activities among Medical Students in Malaysia 2012:-

A cross sectional study was carried out at international school, Management and Science University from December 2011 to February 2012. A total number of 200 international medical students from phase 1, phase 2 and phase 3 were participated in this study through random sampling.

- The questionnaires used in this study consisted of socio-demographic questions and questions about the existing academic system

- Regarding the participants view about curricular system, most of them strongly agreed and agreed that they were satisfied with the current method of teaching (21%, 75%; respectively). In terms of interaction between students and lecturers during the classes, most of them strongly agreed (19.5%) and agreed (69%) that there is a good interaction between students and lecturers during the classes. The majority of the students strongly agreed (31%) and agreed (63%) that problem based learning should be applied on the learning process. Similarly most of them strongly agreed (37.5%) and (57.5%) that small group discussion gives better understanding regarding the subject and the majority of the students prefer MCQ (33.5%) followed by MEQ (30%), SEQ (18%) and OSPE/OSCE (18.5%).and the majority of the students agreed that lecture should be not more than hour (77%) (14).

Teaching Quality Measurement and Improvement, Cost-effectiveness, and Patient Satisfaction in Undergraduate Medical Education: The UME-21 Experience 2004:-

The result of this study was Eleven of the 18 schools specifically addressed the content areas of quality measurement and improvement, including utilization management (27% of schools), cost-effectiveness (45% of schools), use of clinical practice guidelines (73% of schools), and patient satisfaction assessment (45% of schools). Each school developed unique approaches and educational materials pertinent to the content area. Overall, the percentage of seniors rating the relative amount of instructional time devoted to quality assurance in medicine by their school's curriculum as adequate or better rose from 49% to 66% between 1999 and 2001 at the 11 UME-21 schools that introduced initiatives in quality improvement into their curricula. This change was significantly higher than the

pattern at other US medical schools between 1999 and 2001, at which seniors' ratings rose only from 43% to 56%.

- Curriculum development and implementation addressing quality improvement in medical practice accelerate improvement of students' perception that their education has adequately addressed this subject area. This article summarizes some of the experiences, curricular approaches, successes, failures, and lessons learned in quality improvement by schools participating in the UME-21 project (15).

Curriculum Development 2007:

Let's begin with two foundational works on curriculum, one by Ralph Tyler (1949) and the other by Jerome Bruner (1960). These provide a good beginning, not only because they were among the first books on curriculum to be published but because the ideas they contain have been among the most enduring. Indeed, they continue to provide the foundation for our most current thinking in curriculum development foundations.

Regardless of theoretical orientation or practical perspective, curriculum writers emphasize the importance of curricular coherence. The concept is simple, hearkening back to Bruner and others before him,¹ who called for revisiting important ideas again and again in order to deepen understanding and encourage transfer. At the university level, where we have major fields of study that encompass a collection of courses, we have the opportunity to design a coherent curriculum. Such a curriculum need not be sequential in the traditional sense. It might be problem-based or issues-based, with students making ever-deepening inquiries into central concepts and principles. We are in a position to craft a series of courses, in whatever form, that are carefully orchestrated to advance the essential knowledge and skills of our fields of study and allow students to broaden and deepen their understanding as they progress through them.

- There is a technique called curriculum mapping (Jacobs, 1997) ,The technique is relatively straightforward, first involving the identification of the content and skills taught in each course at each level. A calendar-based chart, or “map,” is created for each course so that it is easy to see not only what is taught in a course, but when it is taught. Examination of these maps can reveal both gaps in what is taught and repetition among courses, but its value lies in identifying areas for integration and concepts for spiraling. What are students taking at the same time in different courses? Are there ways

to integrate the content to enlarge understanding? What do students take at one level that is repeated at the next? Are there ways to spiral conceptual understanding and skill development? For the past year, the Education Department has been working on increasing the coherency (16).

The effect of implementing undergraduate competency-based medical education on students' knowledge acquisition, clinical performance and perceived preparedness for practice: a comparative study 2012:-

- The aim of this study to compared knowledge acquisition, clinical performance and perceived preparedness for practice of students from a competency-based active learning (CBAL) curriculum and a prior active learning (AL) curriculum.

- It included two cohorts of both the AL curriculum (n=453) and the CBAL curriculum (n=372). Knowledge acquisition was determined by benchmarking each cohort on 24 interuniversity progress tests against parallel cohorts of two other medical schools. Differences in knowledge acquisition were determined comparing the number of times CBAL and AL cohorts scored significantly higher or lower on progress tests. Clinical performance was operationalized as students' mean clerkship grade. Perceived preparedness for practice was assessed using a survey.

- Results :- The CBAL cohorts demonstrated relatively lower knowledge acquisition than the AL cohorts during the first study years, but not at the end of their studies. We found no significant differences in clinical performance. Concerning perceived preparedness for practice we found no significant differences except that students from the CBAL curriculum felt better prepared for 'putting a patient problem in a broad context of political, sociological, cultural and economic factors' than students from the AL curriculum (17) .

School of Medicine of Federal University of Rio Grande Do Norte : A traditional curriculum with innovative trends in medical education 2018:-

- A group of students and teachers revised the new curriculum and established the key changes over the past years that have been responsible for the local enhancement of medical education. This information was compared and contrasted to further educational evidences in order to define patterns that can be reproduced in other institutions.

- RESULTS: - Improvements in faculty development have been fairly observed in the institution, exemplified by the participation of a growing number of faculty members in programs for professional development and also by the creation of a local masters degree in health education. Alongside, strong student engagement in curriculum matters enhanced the teaching-learning process.

- Due to a deeper involvement of students and teachers in medical education, it has been possible to implement innovative teaching-learning and assessment strategies over the last ten years and place UFRN Medical School at a privileged position in relation to undergraduate training, educational research and professional development of faculty staff (18).

Describing the Journey and Lessons Learned Implementing a Competency-Based, Time-Variable Undergraduate Medical Education Curriculum2017:-

- Oregon Health & Science University School of Medicine launched a completely new undergraduate medical education curriculum in 2014. This initiative dramatically transformed the MD degree program, changing the instructional content taught, the pedagogical methods used by the faculty, and the methods of assessment, and it added new elements such as academic coaching and programmatic entrustment to the program.

- One of the most exciting and impactful aspects to date of this curricular transformation has been the deliberate implementation of a competency-based framework that incorporates frequent assessment, tracking of student progression using an electronic portfolio, and academic coaching to optimize learning and customize curricular elements for each student .

- The next major step in this process-the implementation of time-variable progression-is currently ongoing as a planning group at the school works through the conceptual, logistical, legal, and regulatory issues related to implementing such a system. When implementation is complete, MD students will graduate only once they have earned entrustment for all 13 Core Entrust able Professional Activities for Entering Residency (19).

Training medical students for the twenty-first century: Rationale and development of the Utrecht curriculum "CRU+" 2018:-

-The aim of this report, written for the 40th anniversary issue of Medical Teacher, is to document 20 years of development of the Utrecht undergraduate medical curriculum, as both to exhibit

accountability and to inform the community of the process and choices that can be made in long-term curriculum development

- RESULTS: -The Utrecht six-year program, now called "CRU+", has many distinct features that were introduced, most of which are well documented. A limited selection includes

- A new 3+3 years Bachelor-Master structure following the EU Bologna rules leading to MD registration for cohorts of about 300.
- Horizontally integrated classroom teaching of basic sciences with clinical disciplines predominantly in groups of 12 and limited lectures.
- Mandatory knowledge retention tests, retesting the clinically relevant core knowledge from block tests of semesters one through four.
- Vertical integration not only linking clinical experience with background knowledge, but also exemplified by a stepwise increase in health care responsibilities throughout the curriculum.
- A final year focusing on growth towards the level of a primary responsible physician in a 12-week sub-internship for a limited number of patients and beds, in a chosen specialty. The student is called a semi-physician in the clerkship of this transitional year to residency.
- Teaching skills training for all medical graduates, an elective teaching rotation and various peer-teaching arrangements throughout the curriculum.

- Integrated semi-longitudinal clerkships with an assessment focus on entrustment decisions for Entrustable Professional Activities (20).

Perception of medical students about pharmacology and scope of improvement 2014:-

The study was planned to know the opinion of medical students regarding pharmacology and to assess the proposed teaching schedule and methods of teaching pharmacology.

- The study was conducted in a private medical college in eastern India among the medical undergraduate students in 5th semester. Total 74 students participated in the study. A pre-designed, pre-tested, semi-structured questionnaire was given to the students.

- They found The subject was perceived as interesting and useful by majority of students and most of them were in opinion to integrate pharmacology with the clinical subjects. Lecture in whole class was the most preferred teaching method according to the students and teaching with chalk and board they preferred most. Rational use of medicine, clinical trial, pediatric and geriatric pharmacology are the important topics the students felt to be included in the curriculum. Regular assessment of teaching methods by the students and taking suggestions from the students about improving the teaching

method and redesigning the curriculum can help a lot in improving the learning capacity of the medical students and that will give benefit for the society as a whole (21).

Strengthening medical training programme by focusing on professional transitions: a national bridging programme to prepare medical school graduates for their role as medical interns in Botswana 2017:-

- This study aimed to describe the programme and evaluate its impact on the participants' self-rated perceptions of their knowledge, experience, clinical skills, and familiarity with Botswana's healthcare system.

- RESULTS: - 48/54 participants (89%) provided paired data. Participants reported a high degree of satisfaction with the programme (mean 4.2/5). Self-rated preparedness improved after participation (mean 3.2 versus 3.7, $p < 0.001$), as did confidence across 18/19 knowledge/skill domains, suggesting that participants felt that the programme prepared them for their internship training. Exploratory analysis revealed that 20/25 participants (80%) reporting either no effect or a negative effect following participation had rated themselves "extremely" or "quite" prepared beforehand, suggesting the programme grounded expectations for interns who initially were overconfident. In contrast, no interns who had initially rated themselves "moderately" or "somewhat" prepared reported a decline in their self-rated sense of preparedness. Interns commented on the benefits of learning about roles/responsibilities, interacting with clinicians from Botswana's healthcare sectors, and the sense of community the programme engendered.

- This programme was feasible to implement and was well-received by participants. Overall, participants perceived an enhancement of their knowledge, skills, and expectations about their role in Botswana's health system after completion of the programme. Our results are likely to be of interest to educators dedicated to training, professional transitions, and career pathways in similar settings in the region and beyond (22).

Integration of students in development of medical curriculum and its effect on medical trend 2018:

The aim of study is to highlight the value added by medical students engagement in developing medical curricula to identify the mindset of students regarding this issue ,the effect of this engagement on medical trend and the role students can play in developing medical curriculum .

Result:94.4% agree with value added to by students integration ,72.2% agree with abilities of students ,88.9% interested in integration ,96.1% haven't been integrated in developing curriculum ,69.4% believe in the positive effect of students integration on cost of medical trend (2).

In sum recently, there have been dramatic changes in medical education world-wide. Continues evaluation system is essential to determine if the current system is working to produce a better product, The relationship between the administrative structures of the medical school and the teaching hospitals, the other responsibilities of teachers and administrators, and the details of the curriculum as a system of inter related components means that any new change has wide repercussions. Curriculum evaluation includes gathering information about the merits and demerits of the educational program.

Feedback from learners is an invaluable source for improving current medical education . This monitoring helps to determine whether corrective measures are indicated .Seeking feedback from student is a reasonable approach to evaluation of the medical schools' educational programme, and is commonly used in other parts of the world. In the United States, Graduate Exit Questionnaire (GEQ) is a part of the routine educational process. Medical graduates' evaluation of the educational program in GEQ is utilized for quality assurance and curriculum revision .This monitoring helps to determine whether corrective measures are indicated . There is a lack of data about satisfaction level among medical students in regards to their academic activities in Sudan . Therefore, the objective of this study was to determine the satisfaction from academic activities among medical student [20].

CHAPTER THREE

METHODOLOGY

Chapter Three

Methodology

1. **Study design:** It is a cross-sectional, facility-based study.
2. **Study duration:** 1st to the 22 of March 2018.
3. **Study area:** International University of Africa, Faculty of Medicine (IUA/FM) which is located in Khartoum, Sudan. It aims to qualify medical doctors for the diagnosis and treatment of endemic diseases and other health problems. Faculty of Medicine (FM) of the International University of Africa has been founded in 1997 with the aim of graduating clinically competent and community oriented medical doctors.
4. **Study Population:** Students of clinical phase [semester 7,8,9,10] ,The total number of the student is 163.
5. **Study variables:**
 - i. Dependent variable: Students satisfaction of the curriculum
 - ii. Independent variable: Teaching, language, methods of evaluation ,curriculum .
 - iii. Background variable: Sex, age ..
 - iv. Confounding variable: economic status ..
6. **Data collection techniques and tools:**
 - i. Primary data: interviews with students with a questionnaire, interviews with key medical educational professors (Prof. Basheer Hamad, Prof. Osman Elsheikh), Focus group discussion with 15 medical students.
 - ii. Secondary data: Review of curriculum.
7. **Sampling procedure :** convenience

8. **Sample size:** Total coverage 163 students

Sample size =116 Calculated by the Formula : **sample size:- $n = \frac{N}{1 + N(d)^2}$**

Where: n= sample size and N=population size d = Degree of accuracy (0.05)

Total number of students 163

$$163 \div (1 + 163 \times (0.0025)) = 116.$$

-Sample size 116 from all medical student from semester 7-10, male and female in faculty of medicine .

8. **Data analysis:** Data was analyzed by using SPSS version 20

9. **Ethical consideration:**

- iii. Approval from the faculty
- iv. Verbal consent from the students and professors

CHAPTER FOUR

RESULTS

Chapter Four

4. Results

4.1. Results of the questionnaire

Descriptive Statistics:

Response rate= $116/116 \times 100 = 100\%$

Gender= male were more than female

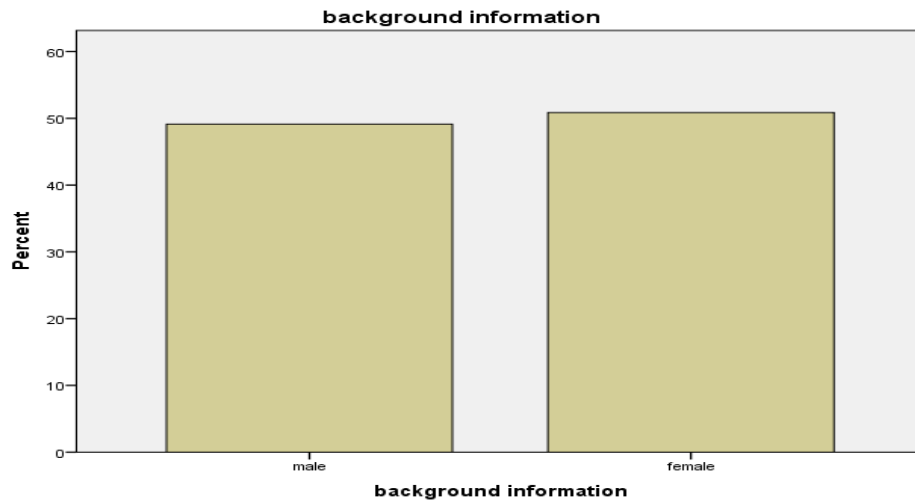


Figure 4.1: Frequency of sex of undergraduate medical students in IUA, Faculty of Medicine in 2018 (n = 116)

49% of undergraduate medical students in IUA/FM were male, and 93% were female.

Introduction to study of Medicine: most of the respondents responded neutral in the credit hours and contents

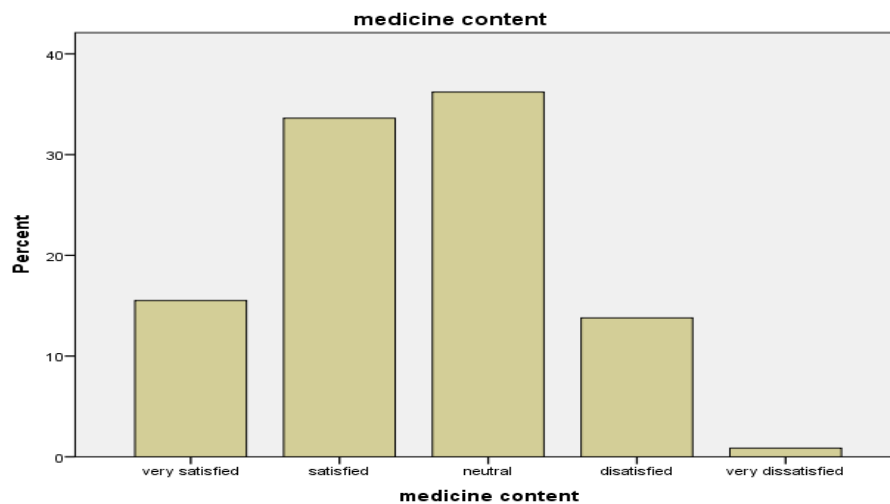


Figure 4.2: Frequency of the satisfaction rate of undergraduate medical students in IUA, Faculty of Medicine in introduction to study of Medicine content in 2018 (n = 116)

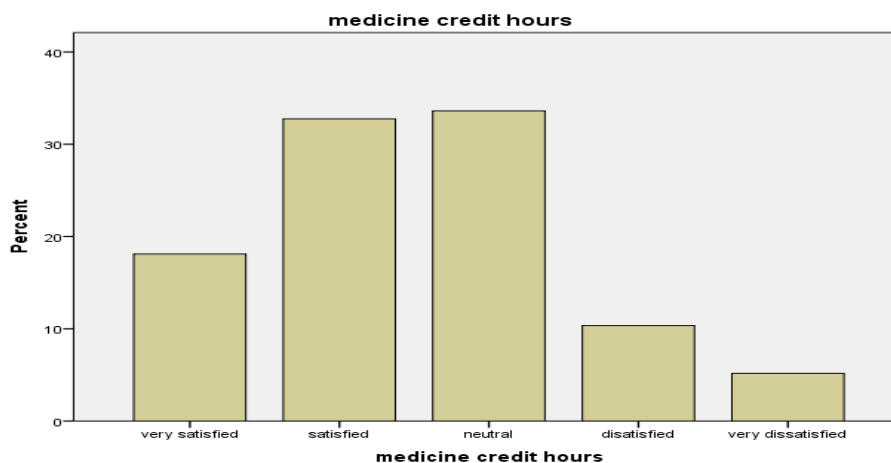


Figure 4.3: Frequency of the satisfaction rate of undergraduate medical students in IUA, Faculty of Medicine in introduction to study of Medicine credit hours in 2018 (n = 116)

About thirty six percent of undergraduate medical students in IUA, Faculty of Medicine responded neutral in introduction to study of medicine content, followed by 33.6% responded neutral too in its credit hours.

Medical Physics: most of the respondents responded neutral in the credit hours and contents

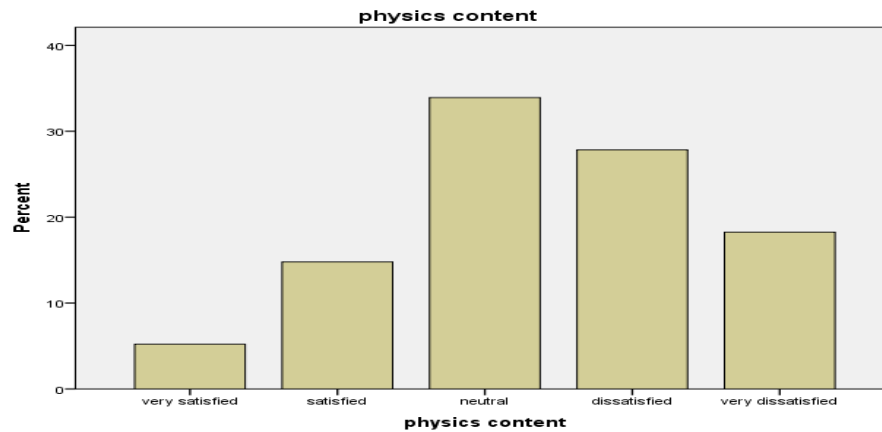


Figure 4.4: Frequency of the satisfaction rate of undergraduate medical students in IUA, Faculty of Medicine in Medical physics content in 2018 (n = 116)

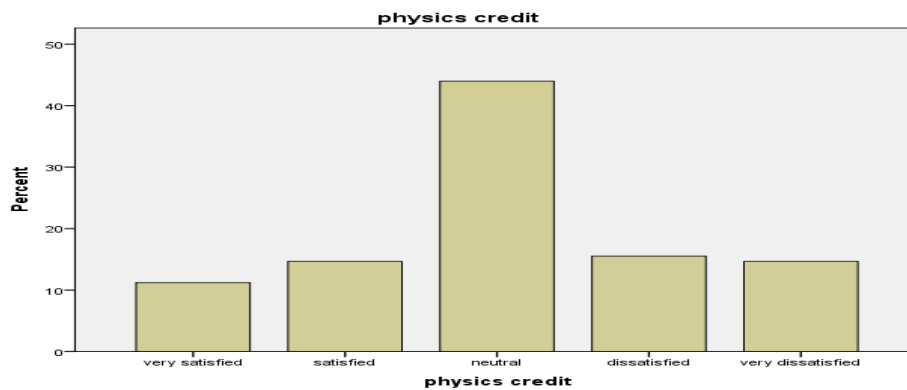


Figure 4.5: Frequency of the satisfaction rate of undergraduate medical students in IUA, Faculty of Medicine in Medical physics credit hours in 2018 (n = 116)

About thirty four percent of undergraduate medical students in IUA, Faculty of Medicine responded neutral in Medical physics content, followed by 33% responded neutral too in its credit hours.

Chemistry and basic biochemistry: most frequent response was "satisfied" in both the contents and credit hours

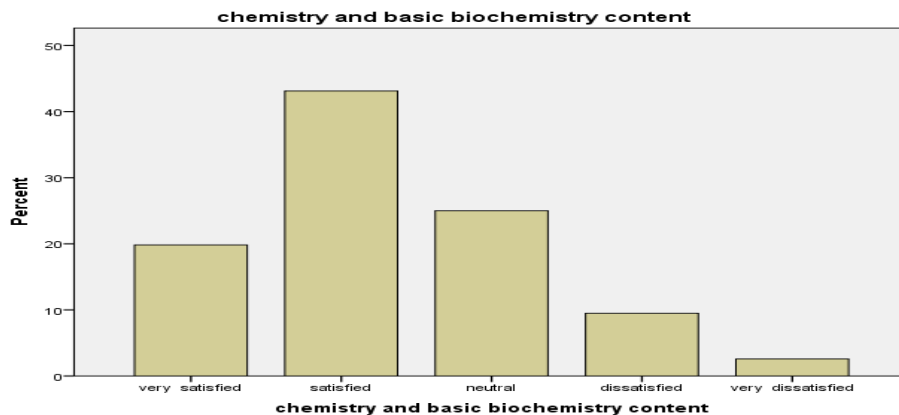


Figure 4.6: Frequency of the satisfaction rate of undergraduate medical students in IUA, Faculty of Medicine in Chemistry and basic biochemistry content in 2018 (n = 116)

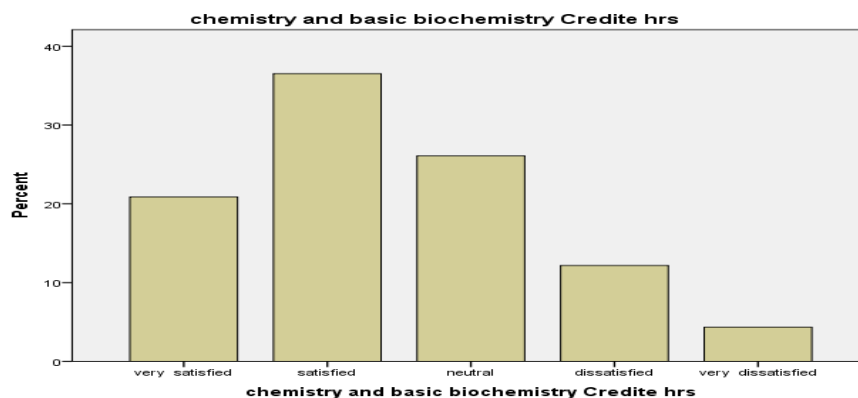


Figure 4.7: Frequency of the satisfaction rate of undergraduate medical students in IUA, Faculty of Medicine in Chemistry and basic biochemistry credit hours in 2018 (n = 116)

43% of undergraduate medical students in IUA, Faculty of Medicine responded satisfied in Chemistry and basic biochemistry content, followed by 36.5% responded satisfied too in its credit hours.

Cell and human biology: most frequent response was "satisfied" in both the contents and credit hours

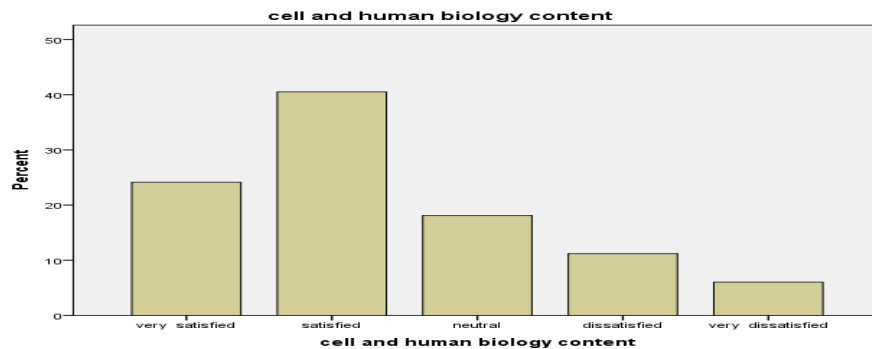


Figure 4.8: Frequency of the satisfaction rate of undergraduate medical students in IUA, Faculty of Medicine in Cell and human biology content in 2018 (n = 116)

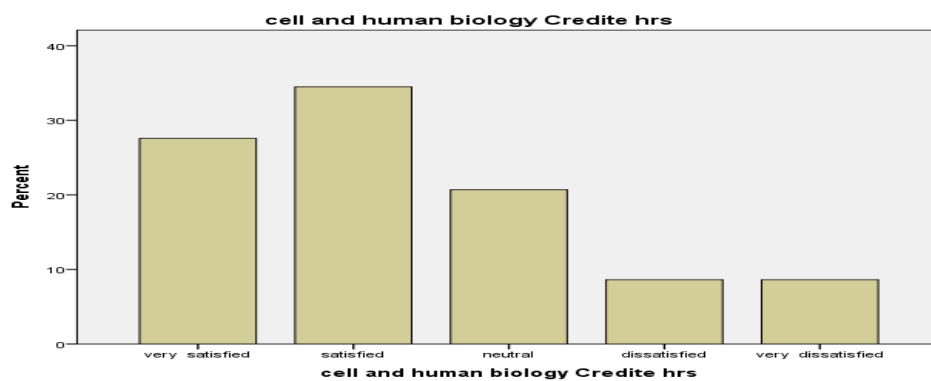


Figure 4.9: Frequency of the satisfaction rate of undergraduate medical students in IUA, Faculty of Medicine in Cell and human biology credit hours in 2018 (n = 116)

About forty one percent of undergraduate medical students in IUA, Faculty of Medicine responded satisfied in Cell and human biology content, followed by 34.5% responded satisfied too in its credit hours.

Man and environment: most frequent response was "very satisfied" in contents and "satisfied" in credit hours

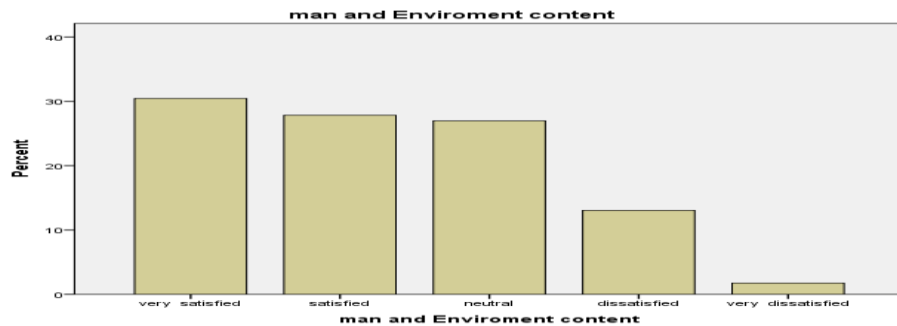


Figure 4.10: Frequency of the satisfaction rate of undergraduate medical students in IUA, Faculty of Medicine in Man and environment content in 2018 (n = 116)

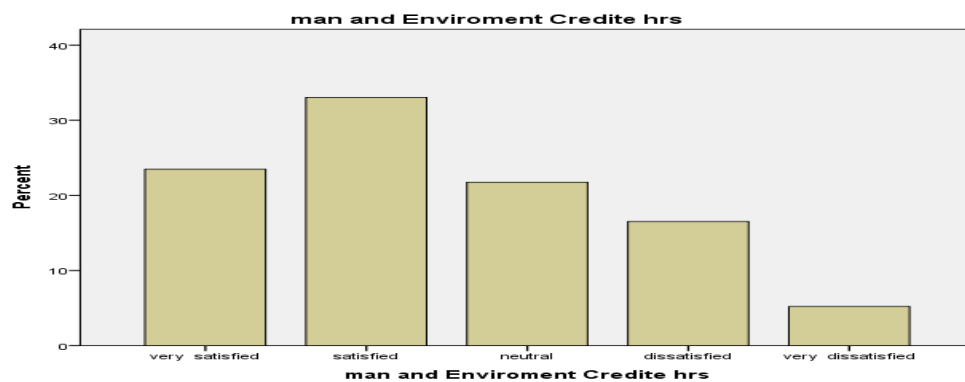


Figure 4.11: Frequency of the satisfaction rate of undergraduate medical students in IUA, Faculty of Medicine in Man and environment credit hours in 2018 (n = 116)

About thirty percent of undergraduate medical students in IUA, Faculty of Medicine responded very satisfied in Man and environment content, followed by 33% responded satisfied in its credit hours.

Introduction to epidemiology, biostatistics and research: most frequent response was "satisfied" in contents and "neutral" in credit hours

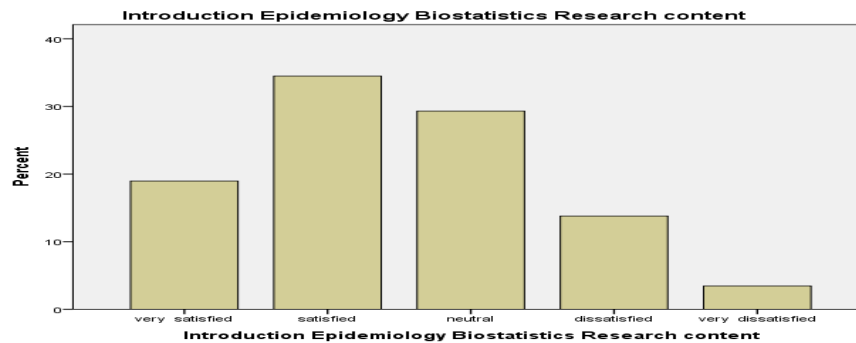


Figure 4.12: Frequency of the satisfaction rate of undergraduate medical students in IUA, Faculty of Medicine in Introduction to epidemiology, biostatistics and research content in 2018 (n = 116)

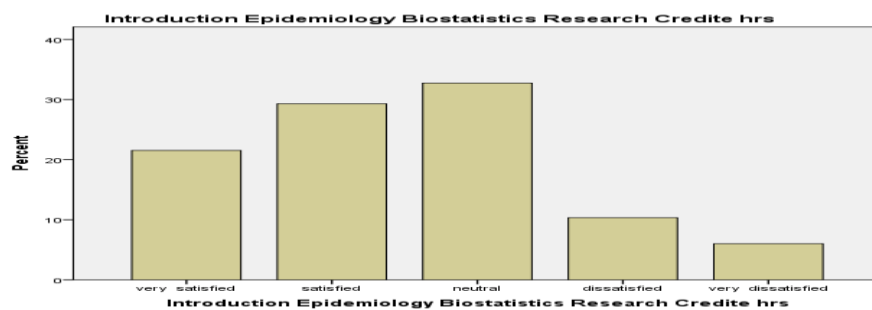


Figure 4.13: Frequency of the satisfaction rate of undergraduate medical students in IUA, Faculty of Medicine in Introduction to epidemiology, biostatistics and research credit hours in 2018 (n = 116)

About thirty five percent of undergraduate medical students in IUA, Faculty of Medicine responded satisfied in Introduction to epidemiology, biostatistics and research content, followed by 32.8% responded neutral in its credit hours.

Growth and development: most frequent response was "satisfied" in both contents and credit hours

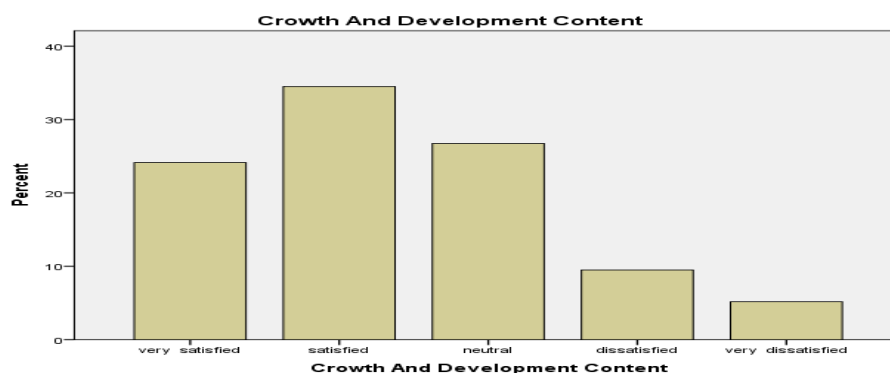


Figure 4.14: Frequency of the satisfaction rate of undergraduate medical students in IUA, Faculty of Medicine in Growth and development content in 2018 (n = 116)

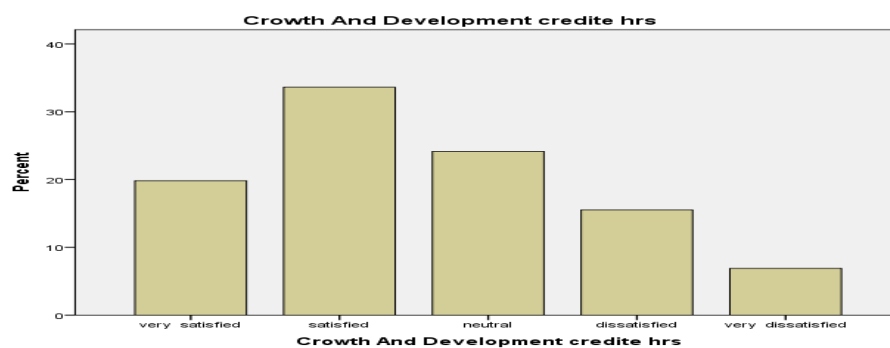


Figure 4.15: Frequency of the satisfaction rate of undergraduate medical students in IUA, Faculty of Medicine in Growth and development credit hours in 2018 (n = 116)

About thirty five percent of undergraduate medical students in IUA, Faculty of Medicine responded satisfied in Growth and development content, followed by 33.6% responded satisfied in its credit hours.

Medical jurisprudence and medical ethics: most frequent response was "satisfied" in both contents and credit hours

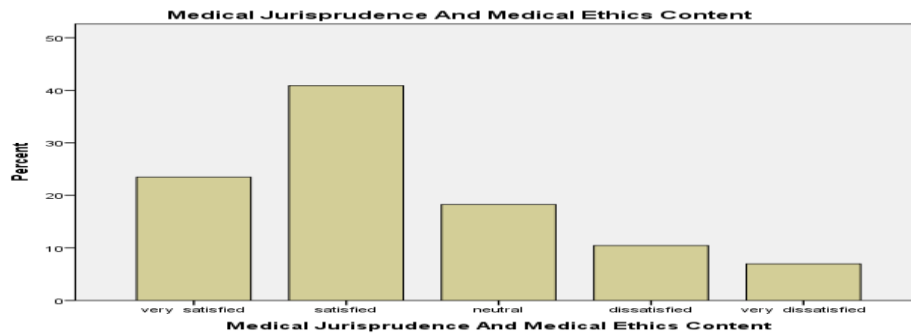


Figure 4.16: Frequency of the satisfaction rate of undergraduate medical students in IUA, Faculty of medicine in Medical jurisprudence and medical ethics content in 2018 (n = 116)

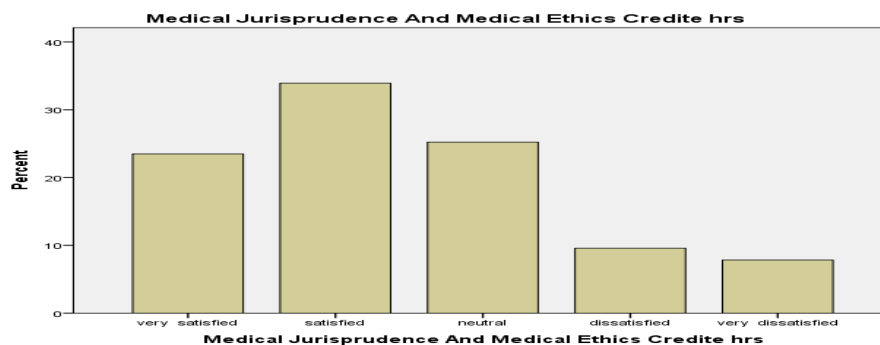


Figure 4.17: Frequency of the satisfaction rate of undergraduate medical students in IUA, Faculty of medicine in Medical jurisprudence and medical ethics credit hours in 2018 (n = 116)

About forty one percent of undergraduate medical students in IUA, Faculty of Medicine responded satisfied in Medical jurisprudence and medical ethics content, followed by 33.9% responded satisfied in its credit hours.

Nutrition and its biochemistry: most frequent response was "satisfied" in contents and "very satisfied" in the credit hours

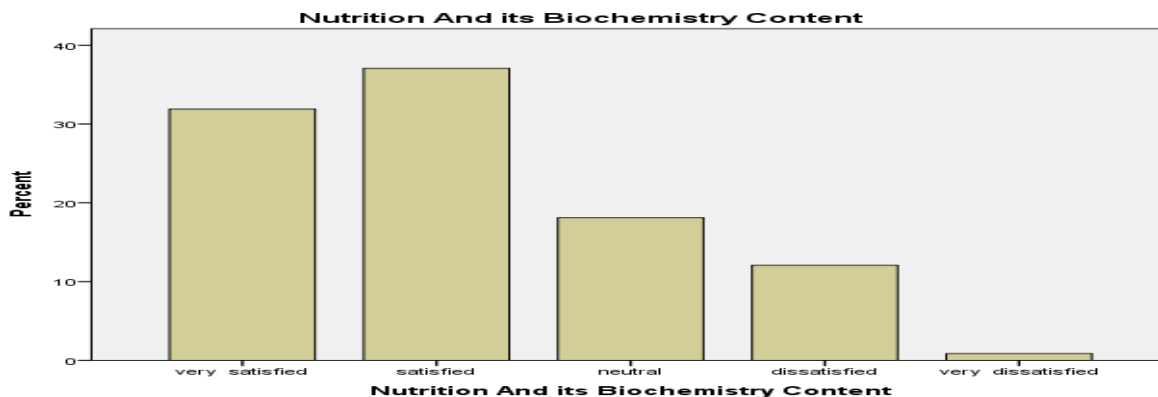


Figure 4.18: Frequency of the satisfaction rate of undergraduate medical students in IUA, Faculty of medicine in Nutrition and its biochemistry content in 2018 (n = 116)

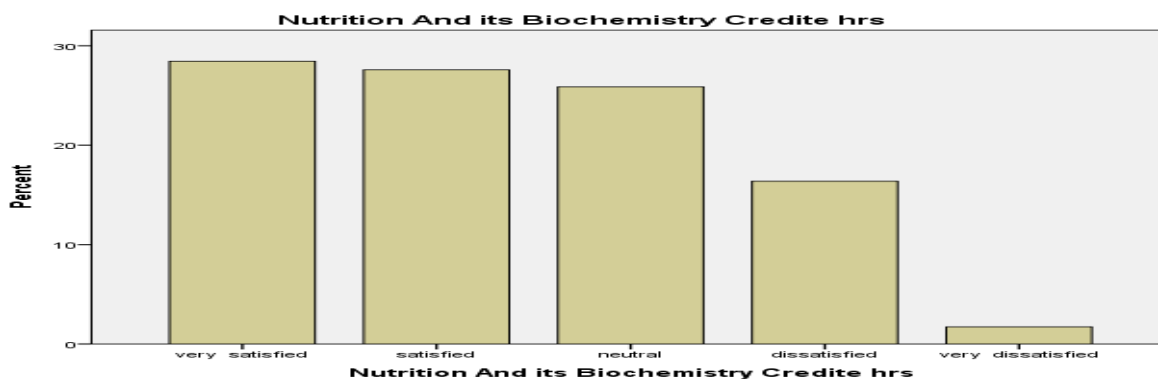


Figure 4.19: Frequency of the satisfaction rate of undergraduate medical students in IUA, Faculty of medicine in Nutrition and its biochemistry credit hours in 2018 (n = 116)

About thirty seven percent of undergraduate medical students in IUA, Faculty of Medicine responded satisfied in Nutrition and its biochemistry content, followed by 28.4% responded very satisfied in its credit hours.

Field work: most frequent response was "neutral" in both contents and credit hours

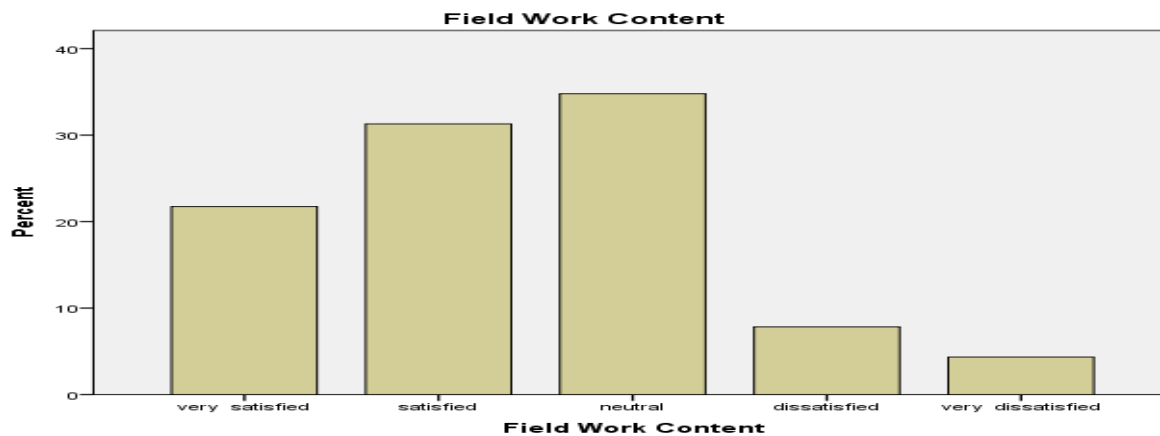


Figure 4.20: Frequency of the satisfaction rate of undergraduate medical students in IUA, Faculty of medicine in Field work content in 2018 (n = 116)

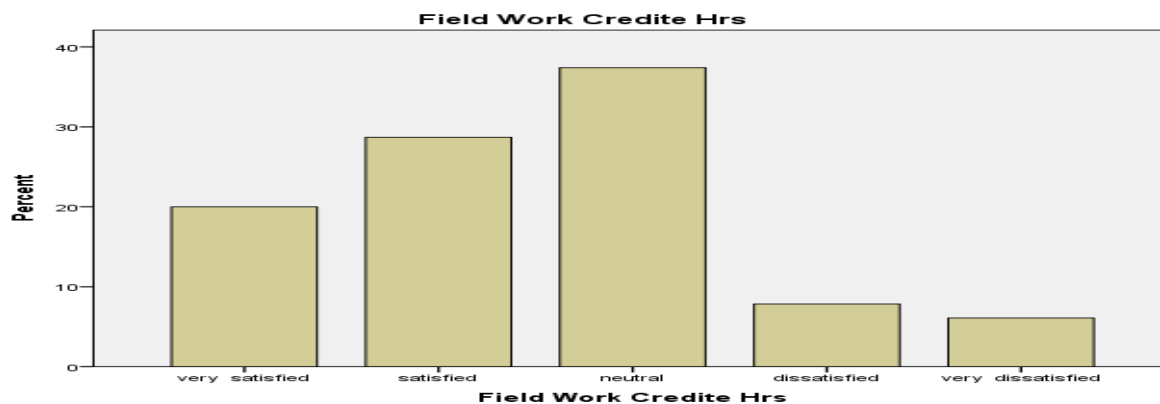


Figure 4.21: Frequency of the satisfaction rate of undergraduate medical students in IUA, Faculty of medicine in Field work credit hours in 2018 (n = 116)

About thirty five percent of undergraduate medical students in IUA, Faculty of Medicine responded satisfied in Field work content, followed by 37.4% responded very satisfied in its credit hours.

Introduction to pathology: most frequent response was "satisfied" in contents and "satisfied and neutral" in the credit hours

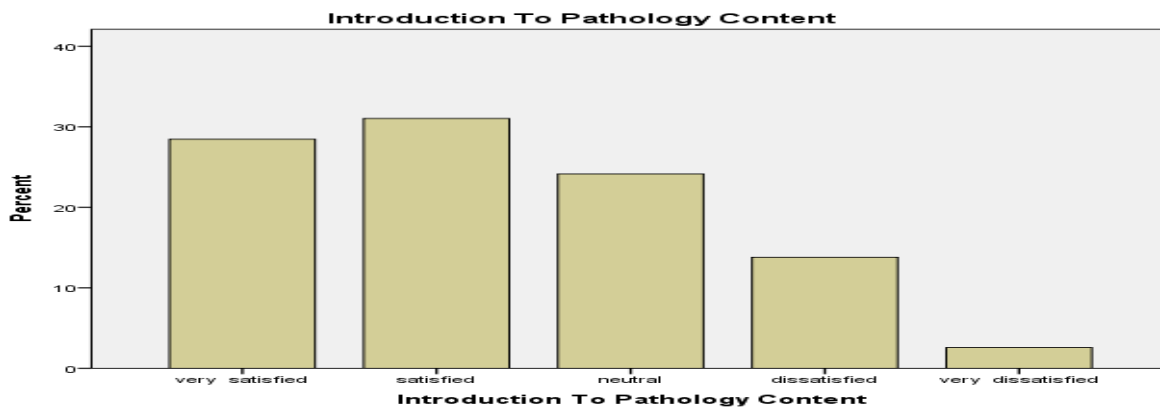


Figure 4.22: Frequency of the satisfaction rate of undergraduate medical students in IUA, Faculty of medicine in Introduction to pathology content in 2018 (n = 116)

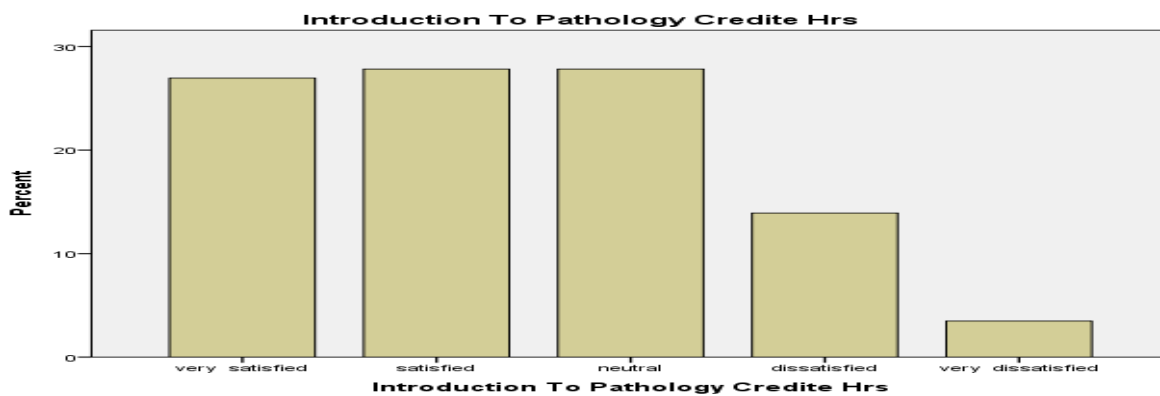


Figure 4.23: Frequency of the satisfaction rate of undergraduate medical students in IUA, Faculty of medicine in Introduction to pathology credit hours in 2018 (n = 116)

About thirty one percent of undergraduate medical students in IUA, Faculty of Medicine responded satisfied in Introduction to pathology content, followed by 27.8% responded satisfied and another 27.8% responded neutral in its credit hours.

Loco-motor system and its problems: most frequent response was "satisfied" in both contents and credit hours

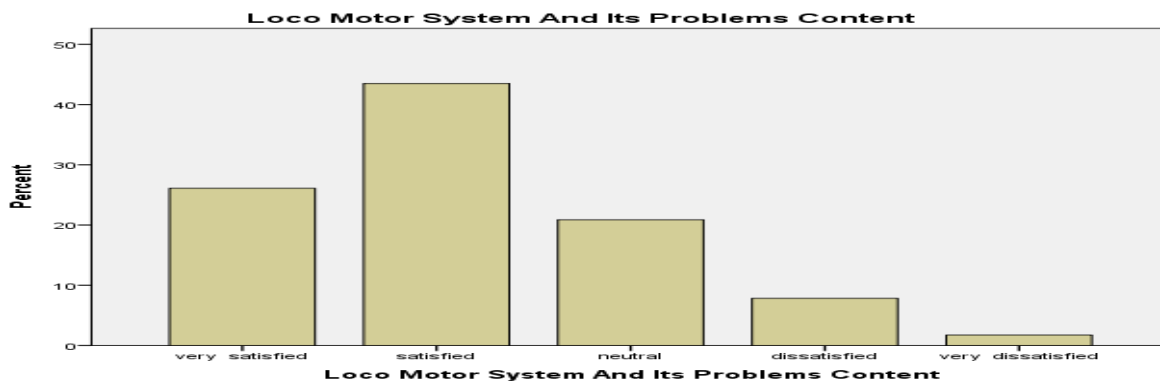


Figure 4.24: Frequency of the satisfaction rate of undergraduate medical students in IUA, Faculty of medicine in Loco-motor system and its problems content in 2018 (n = 116)

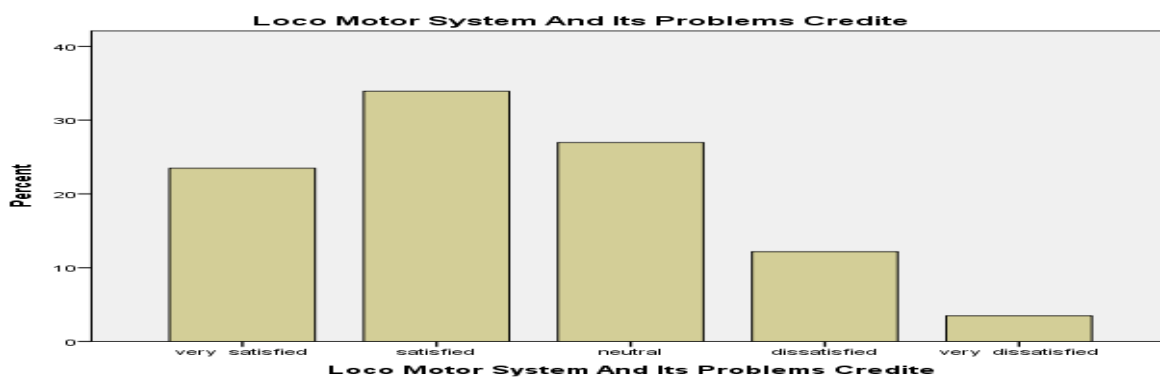


Figure 4.25: Frequency of the satisfaction rate of undergraduate medical students in IUA, Faculty of medicine in Loco-motor system and its problems credit hours in 2018 (n = 116)

About forty four percent of undergraduate medical students in IUA, Faculty of Medicine responded satisfied in Loco-motor system and its problems content, followed by 33.9% responded satisfied in its credit hours.

Primary health care (1): most frequent response was "neutral" in both contents and credit hours

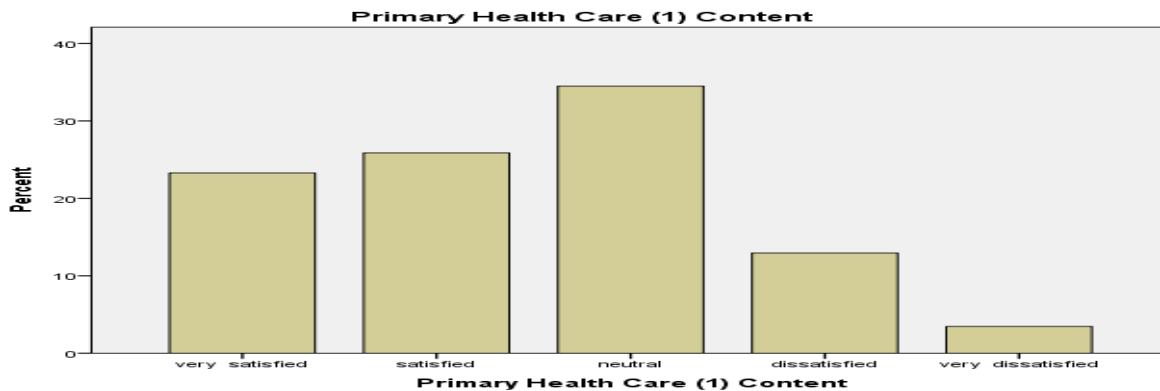


Figure 4.26: Frequency of the satisfaction rate of undergraduate medical students in IUA, Faculty of medicine in Primary health care (1) content in 2018 (n = 116)

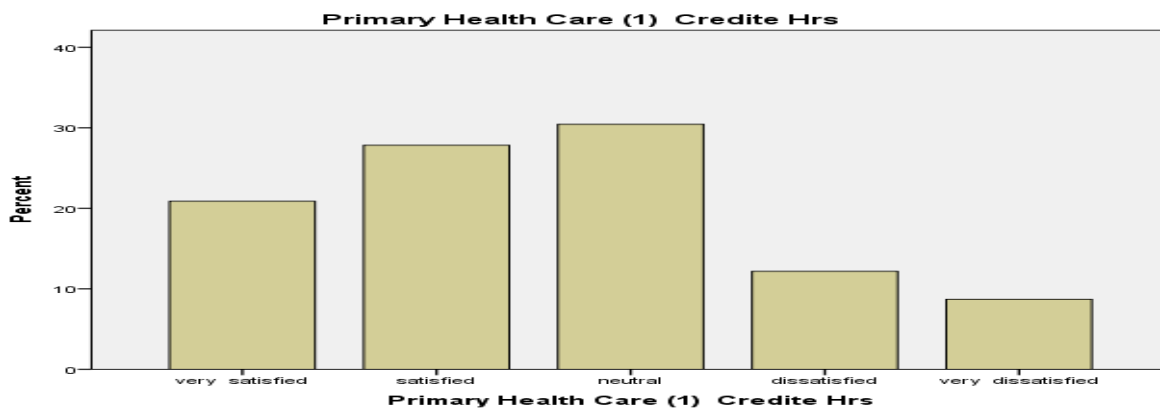


Figure 4.27: Frequency of the satisfaction rate of undergraduate medical students in IUA, Faculty of medicine in Primary health care (1) credit hours in 2018 (n = 116)

About thirty five percent of undergraduate medical students in IUA, Faculty of Medicine responded neutral in Primary health care (1) content, followed by 30.4% responded neutral in its credit hours.

Introduction to education and psychology: most frequent response was "neutral" in both contents and credit hours

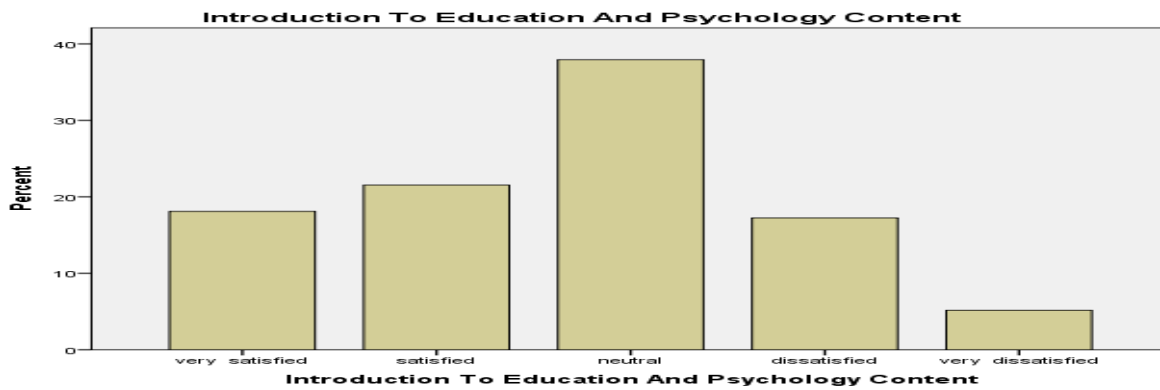


Figure 4.28: Frequency of the satisfaction rate of undergraduate medical students in IUA, Faculty of medicine in Introduction to education and psychology content in 2018 (n = 116)



Figure 4.29: Frequency of the satisfaction rate of undergraduate medical students in IUA, Faculty of medicine in Introduction to education and psychology credit hours in 2018 (n = 116)

About thirty eight percent of undergraduate medical students in IUA, Faculty of Medicine responded neutral in Introduction to education and psychology content, followed by 37.9% responded neutral in its credit hours.

Respiratory system: most frequent response was "satisfied" in both contents and credit hours

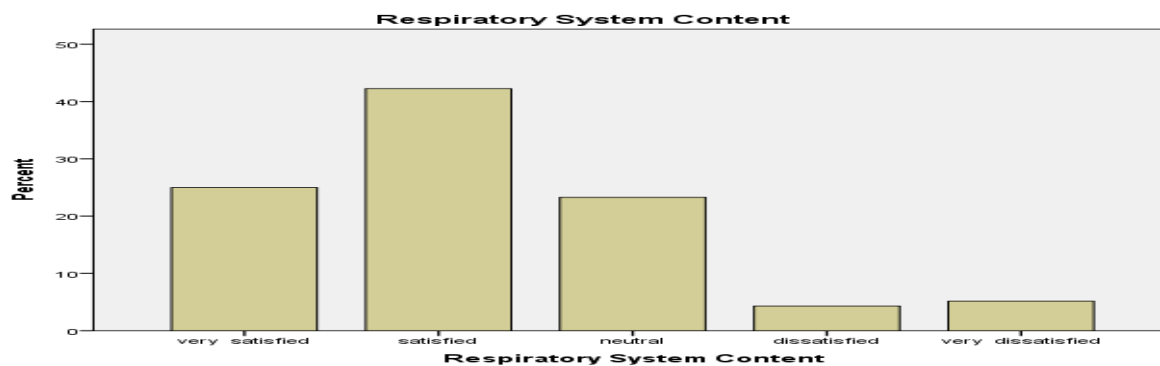


Figure 4.30: Frequency of the satisfaction rate of undergraduate medical students in IUA, Faculty of medicine in Respiratory system content in 2018 (n = 116)

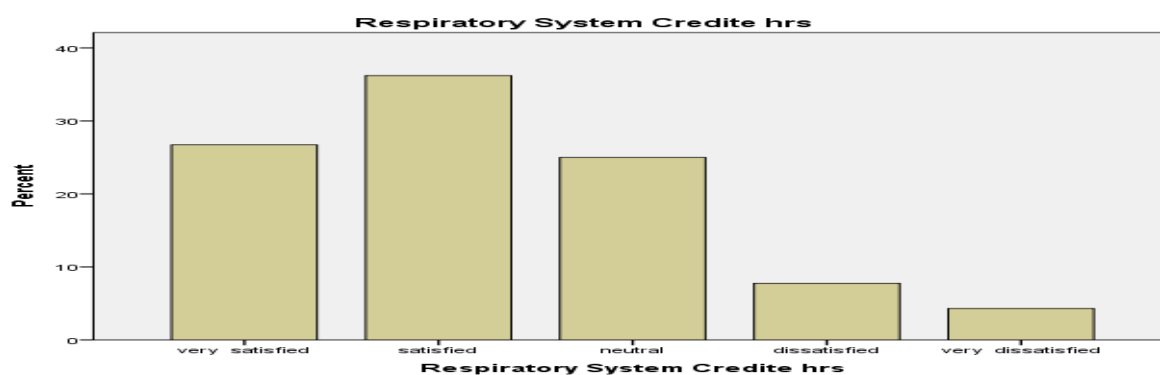


Figure 4.31: Frequency of the satisfaction rate of undergraduate medical students in IUA, Faculty of medicine in Respiratory system credit hours in 2018 (n = 116)

About forty two percent of undergraduate medical students in IUA, Faculty of Medicine responded satisfied in Respiratory system content, followed by 36.2% responded satisfied in its credit hours.

Cardiovascular system: most frequent response was "satisfied" in both contents and credit hours

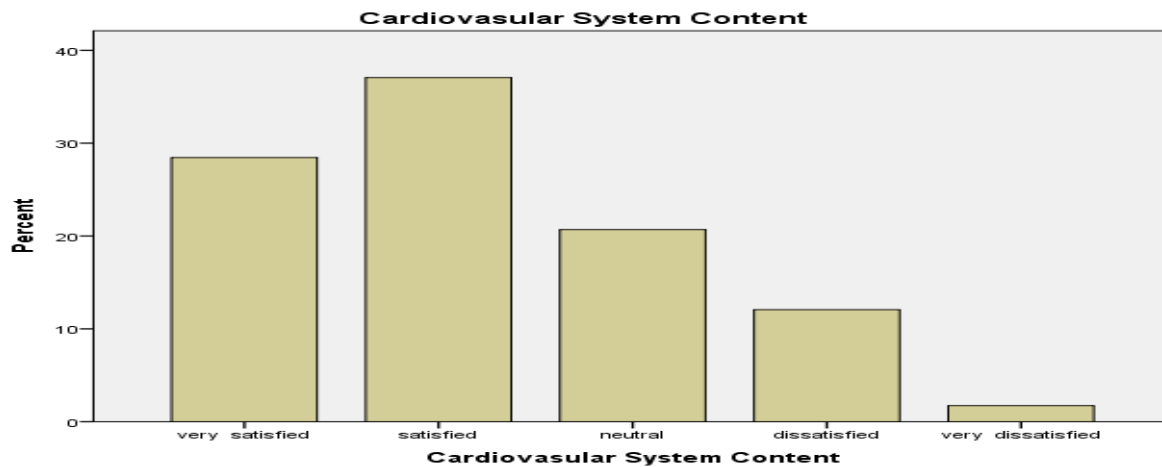


Figure 4.32: Frequency of the satisfaction rate of undergraduate medical students in IUA, Faculty of medicine in cardiovascular system content in 2018 (n = 116)

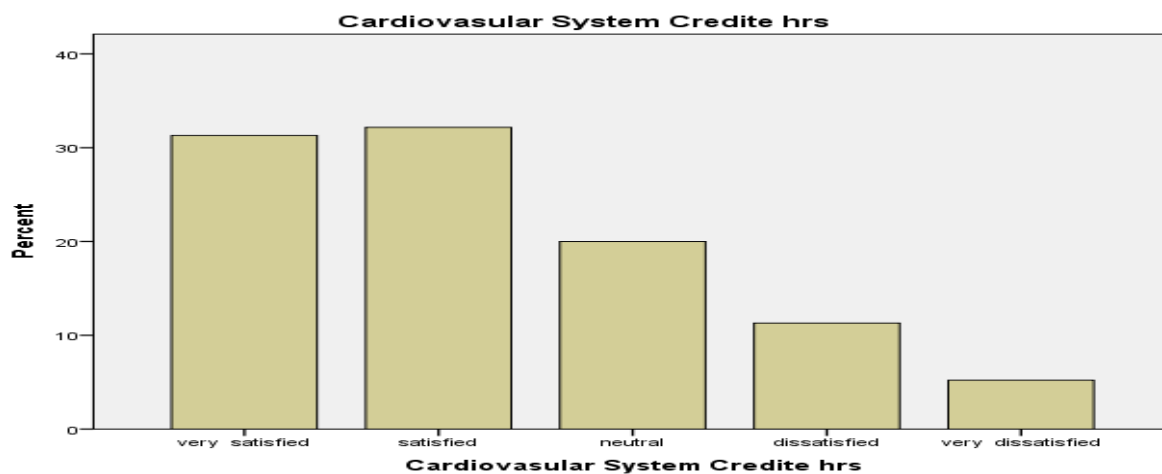


Figure 4.33: Frequency of the satisfaction rate of undergraduate medical students in IUA, Faculty of medicine in cardiovascular system credit hours in 2018 (n = 116)

About thirty seven percent of undergraduate medical students in IUA, Faculty of Medicine responded satisfied in cardiovascular system content, followed by 32.2% responded satisfied in its credit hours.

Hematology: most frequent response was "satisfied" in contents and "neutral" in the credit hours

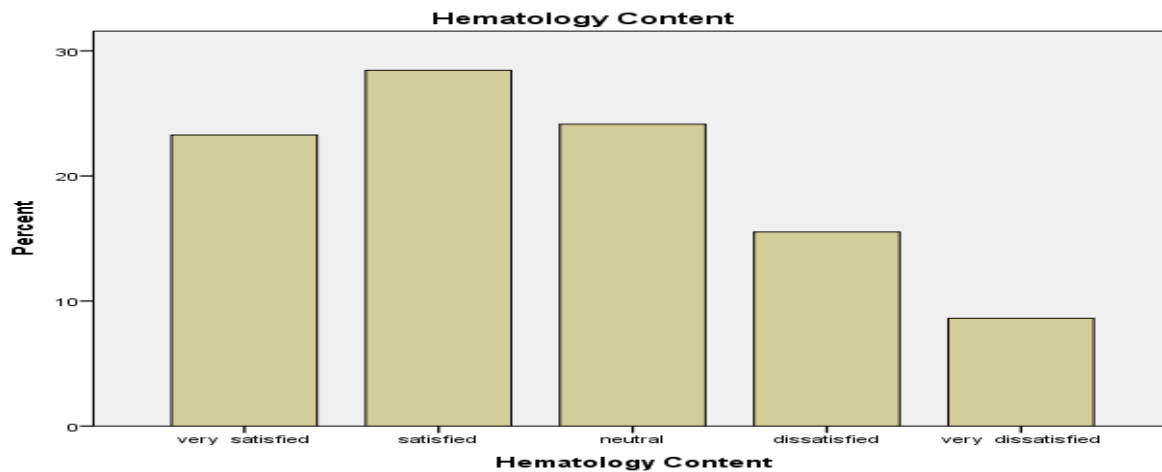


Figure 4.34: Frequency of the satisfaction rate of undergraduate medical students in IUA, Faculty of medicine in hematology content in 2018 (n = 116)

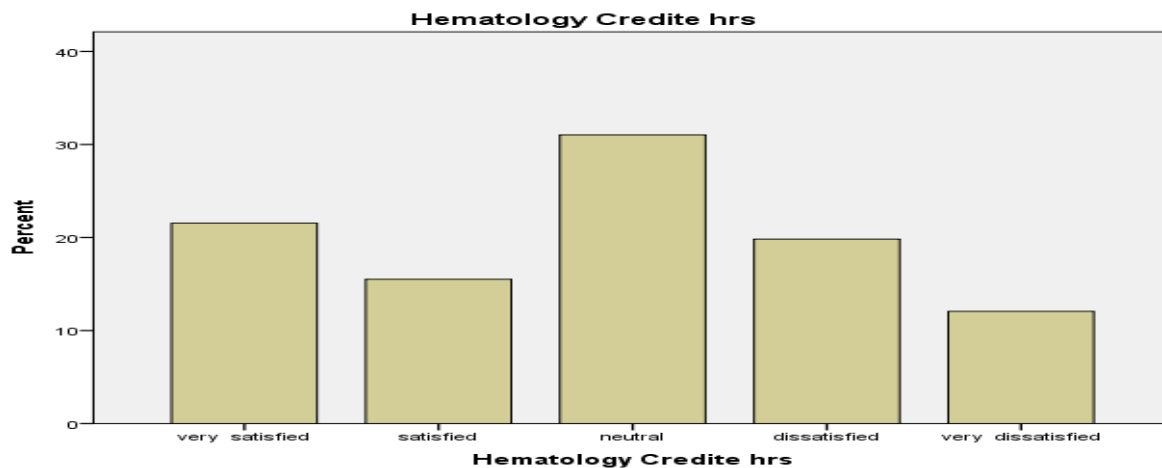


Figure 4.35: Frequency of the satisfaction rate of undergraduate medical students in IUA, Faculty of medicine in hematology credit hours in 2018 (n = 116)

About twenty eight percent of undergraduate medical students in IUA, Faculty of Medicine responded satisfied in cardiovascular system content, followed by 31% responded neutral in its credit hours.

Basic: most frequent response was "neutral" in both contents and credit hours

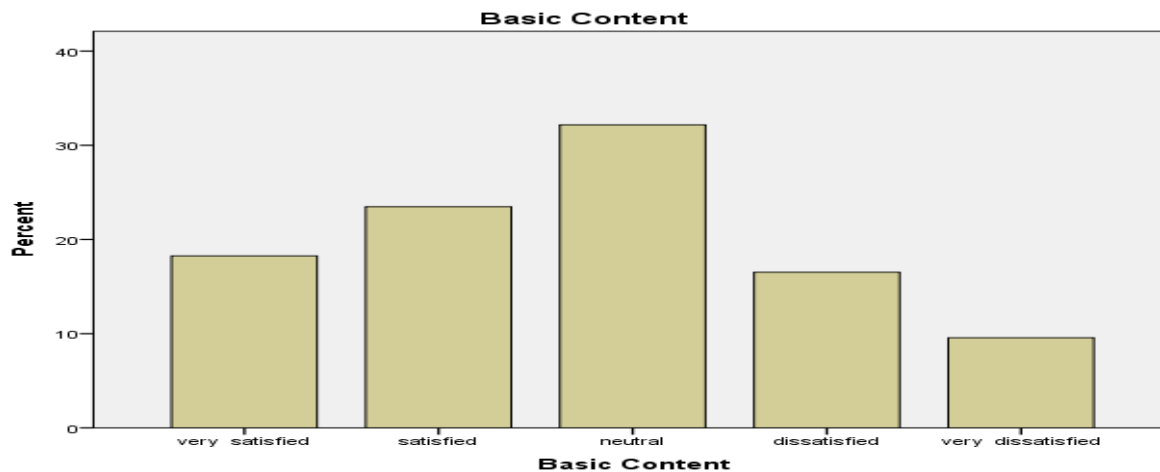


Figure 4.36: Frequency of the satisfaction rate of undergraduate medical students in IUA, Faculty of medicine in basic content in 2018 (n = 116)

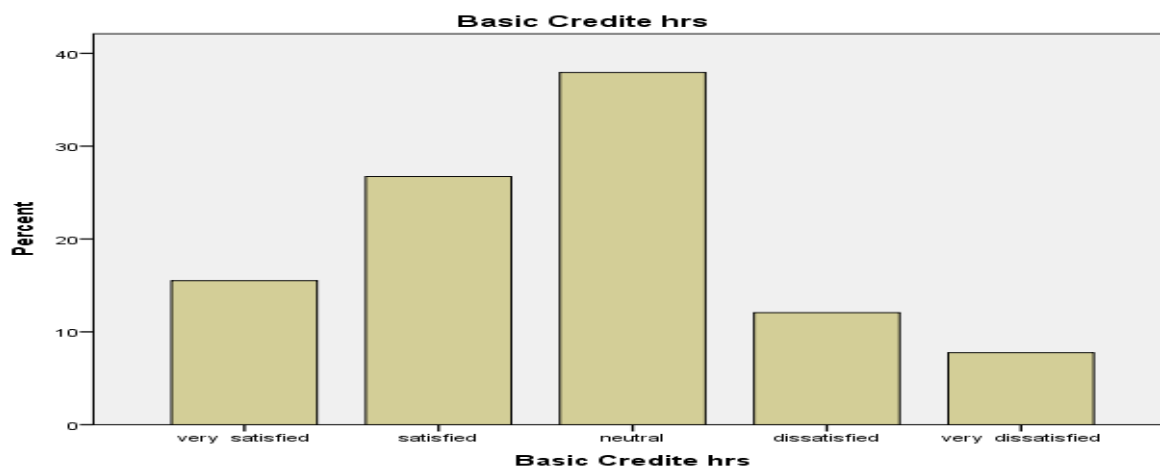


Figure 4.37: Frequency of the satisfaction rate of undergraduate medical students in IUA, Faculty of medicine in basic credit hours in 2018 (n = 116)

About thirty two percent of undergraduate medical students in IUA, Faculty of Medicine responded neutral in basic content, followed by 37.9% responded neutral in its credit hours.

Primary health care (2): most frequent response was "neutral" in both contents and credit hours

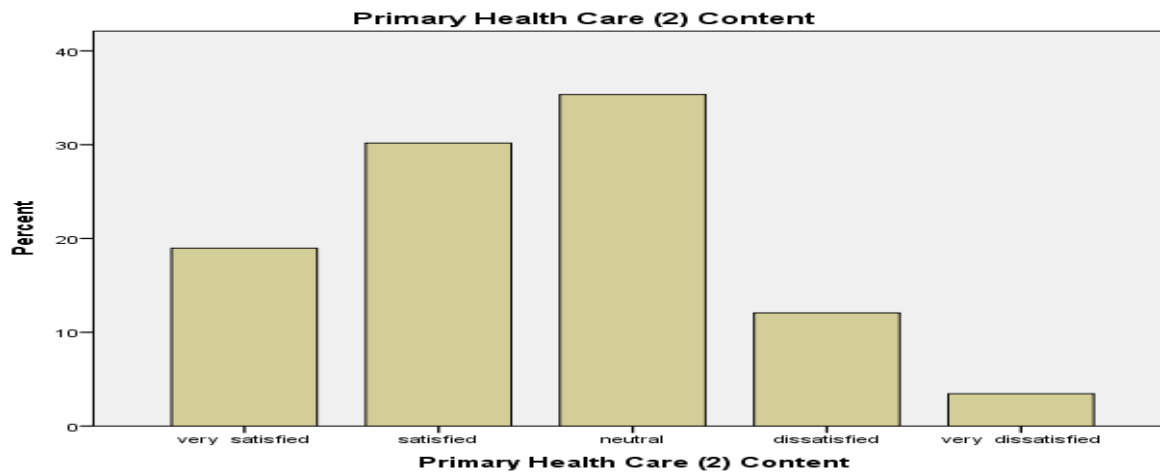


Figure 4.38: Frequency of the satisfaction rate of undergraduate medical students in IUA, Faculty of medicine in Primary health care (2) content in 2018 (n = 116)

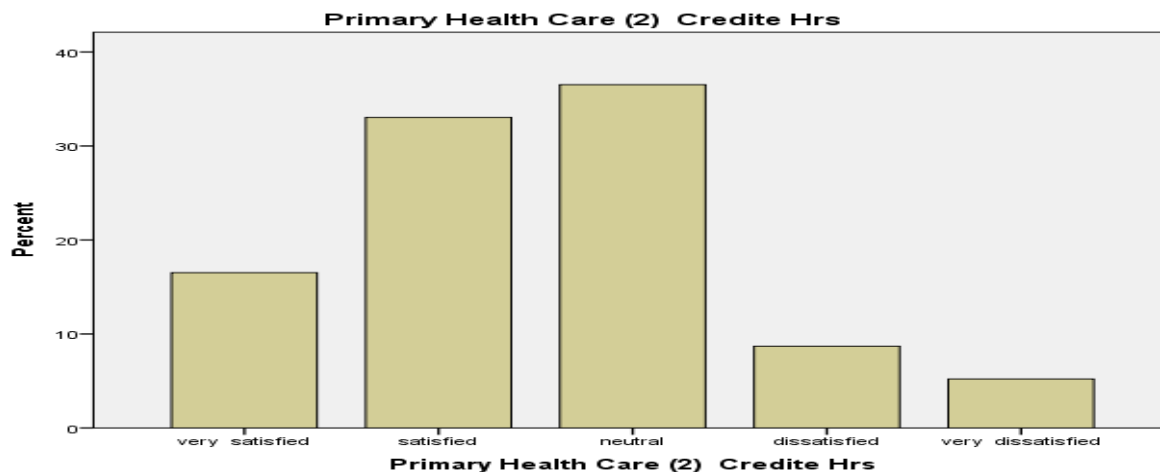


Figure 4.39: Frequency of the satisfaction rate of undergraduate medical students in IUA, Faculty of medicine in Primary health care (2) credit hours in 2018 (n = 116)

About thirty five percent of undergraduate medical students in IUA, Faculty of Medicine responded neutral in Primary health care (2) content, followed by 36.5% responded neutral in its credit hours.

Gastrointestinal tract (1): most frequent response was "very satisfied" in both contents and credit hours and also satisfied in credit hours

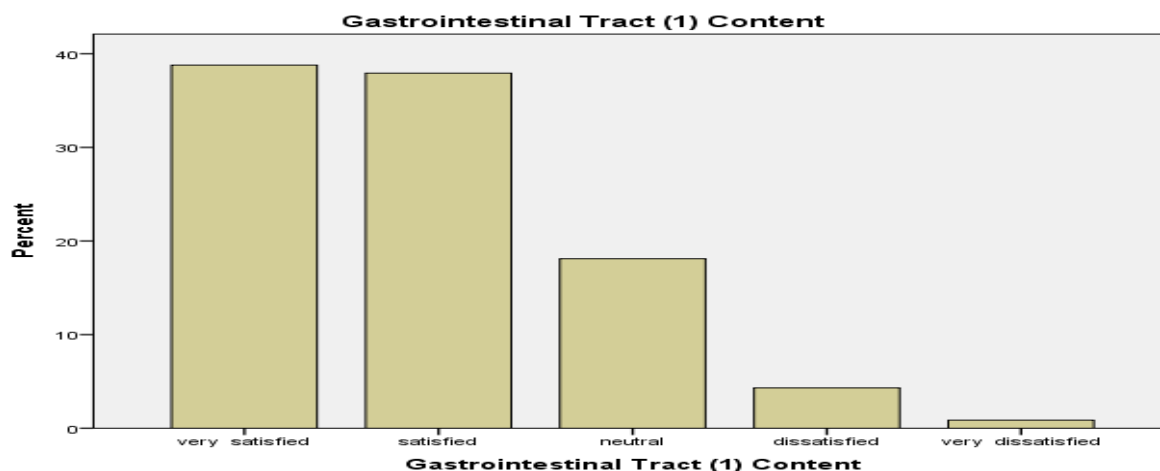


Figure 4.40: Frequency of the satisfaction rate of undergraduate medical students in IUA, Faculty of medicine in Gastrointestinal tract (1) content in 2018 (n = 116)

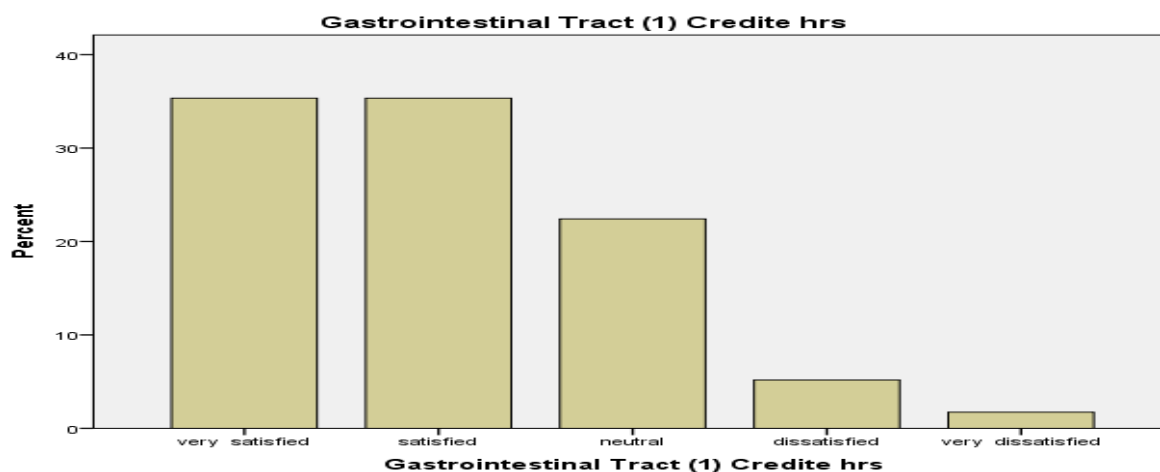


Figure 4.41: Frequency of the satisfaction rate of undergraduate medical students in IUA, Faculty of medicine in Gastrointestinal tract (1) credit hours in 2018 (n = 116)

About thirty nine percent of undergraduate medical students in IUA, Faculty of Medicine responded satisfied in Gastrointestinal tract (1) content, followed by 35.3% responded very satisfied in its credit hours and another 35.3% responded satisfied in its credit hours.

Gastrointestinal tract (2): most frequent response was "satisfied" in both contents and credit hours.

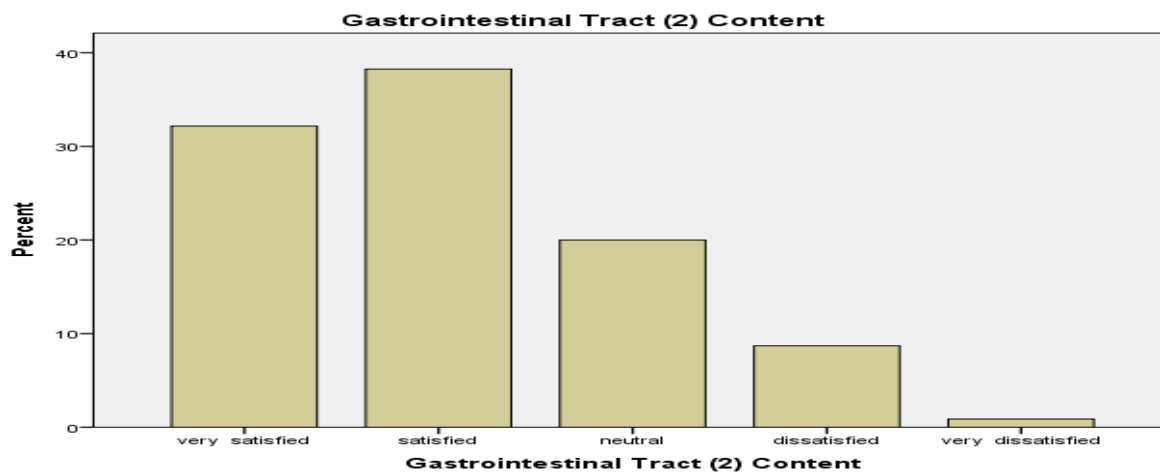


Figure 4.42: Frequency of the satisfaction rate of undergraduate medical students in IUA, Faculty of medicine in Gastrointestinal tract (2) content in 2018 (n = 116)

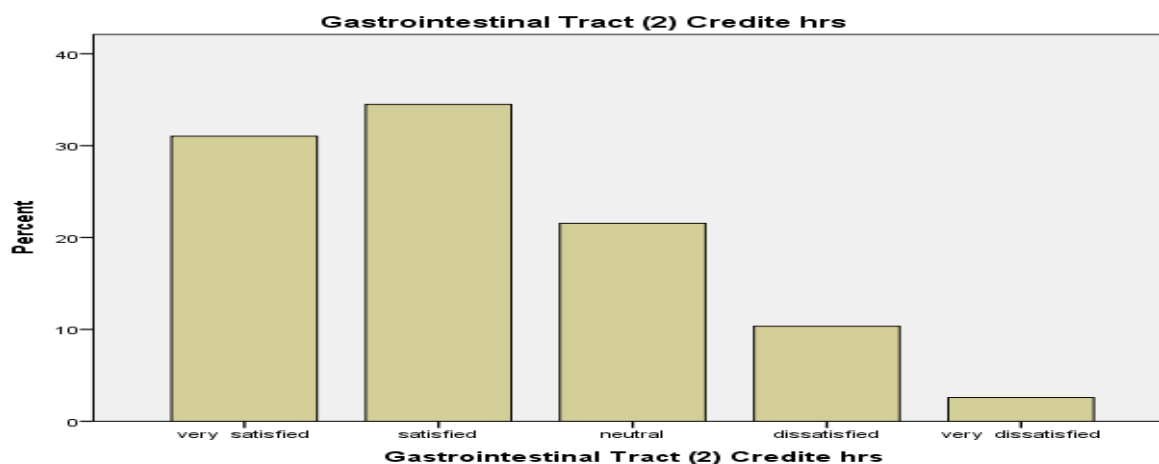


Figure 4.43: Frequency of the satisfaction rate of undergraduate medical students in IUA, Faculty of medicine in Gastrointestinal tract (2) credit hours in 2018 (n = 116)

About thirty nine percent of undergraduate medical students in IUA, Faculty of Medicine responded satisfied in Gastrointestinal tract (2) content, followed by 34.5% responded satisfied in its credit hours.

Oral and dental health: most frequent response was "dissatisfied" in both contents and credit hours

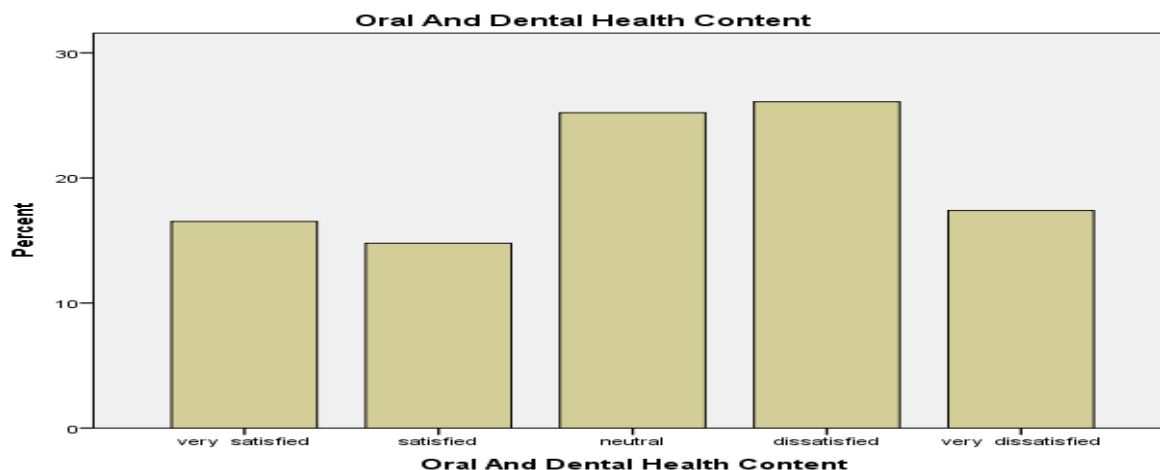


Figure 4.44: Frequency of the satisfaction rate of undergraduate medical students in IUA, Faculty of medicine in Oral and dental health content in 2018 (n = 116)

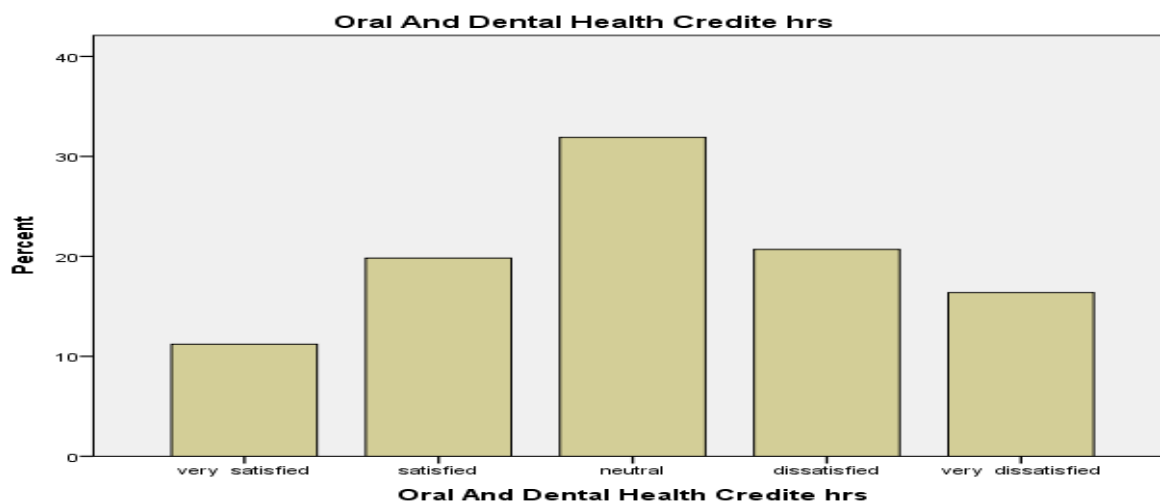


Figure 4.45: Frequency of the satisfaction rate of undergraduate medical students in IUA, Faculty of medicine in Oral and dental health credit hours in 2018 (n = 116)

About twenty six percent of undergraduate medical students in IUA, Faculty of Medicine responded dissatisfied in Oral and dental health content, followed by 20.7% responded dissatisfied in its credit hours.

Endocrinology and metabolism: most frequent response was "very satisfied" in both contents and credit hours.

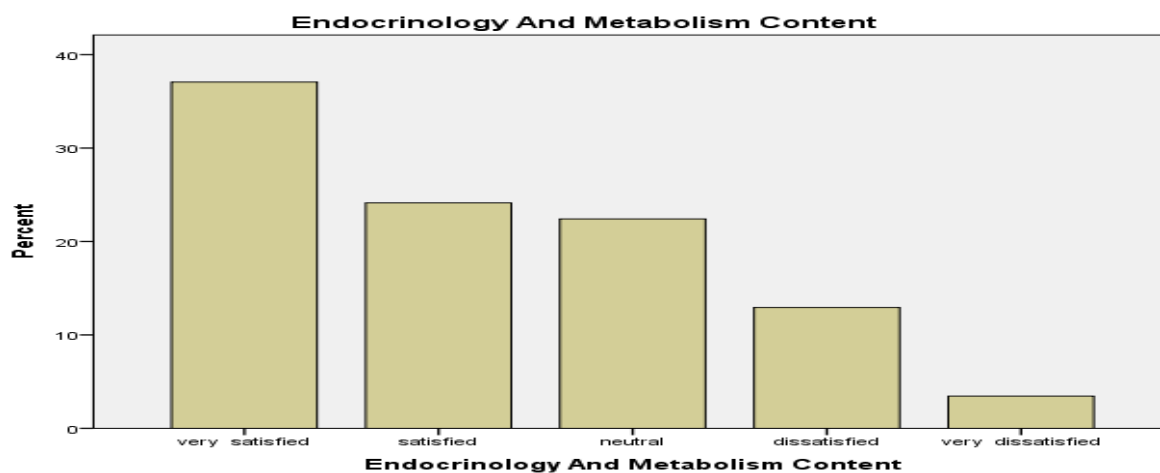


Figure 4.46: Frequency of the satisfaction rate of undergraduate medical students in IUA, Faculty of medicine in Endocrinology and metabolism content in 2018 (n = 116)

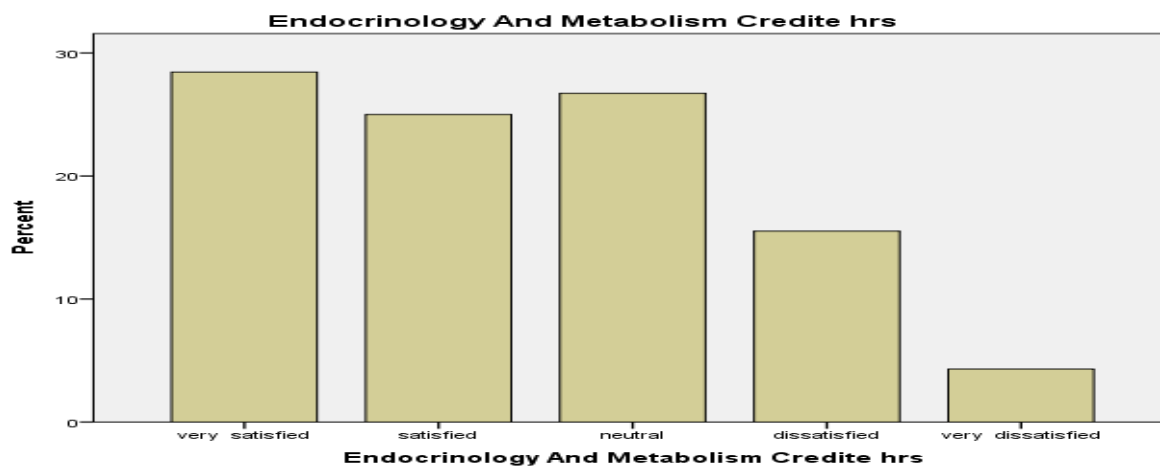


Figure 4.47: Frequency of the satisfaction rate of undergraduate medical students in IUA, Faculty of medicine in Endocrinology and metabolism credit hours in 2018 (n = 116)

About twenty eight percent of undergraduate medical students in IUA, Faculty of Medicine responded very satisfied in Endocrinology and metabolism content, followed by 37.9% responded very satisfied in its credit hours.

Nervous system: most frequent response was "very satisfied" in both contents and credit hours.

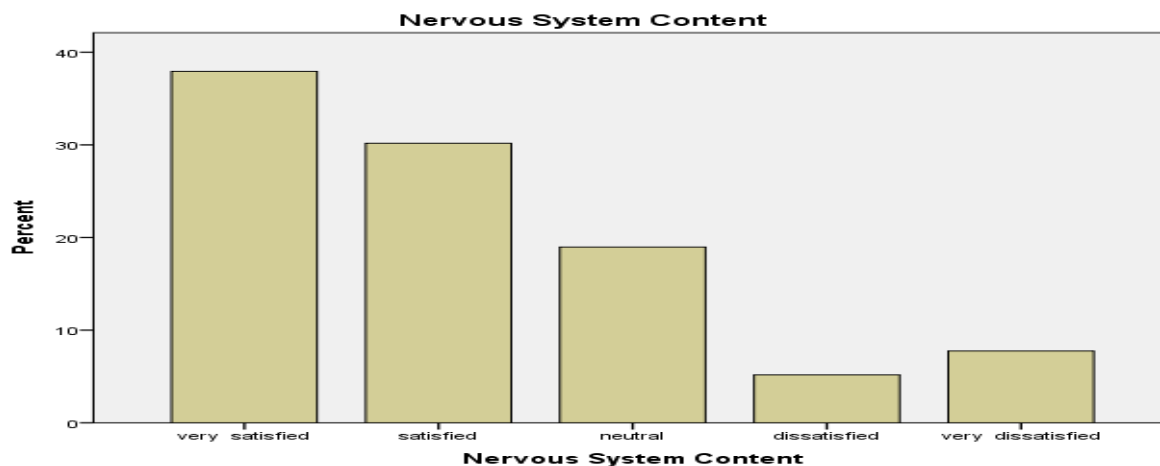


Figure 4.48: Frequency of the satisfaction rate of undergraduate medical students in IUA, Faculty of medicine in Nervous system content in 2018 (n = 116)

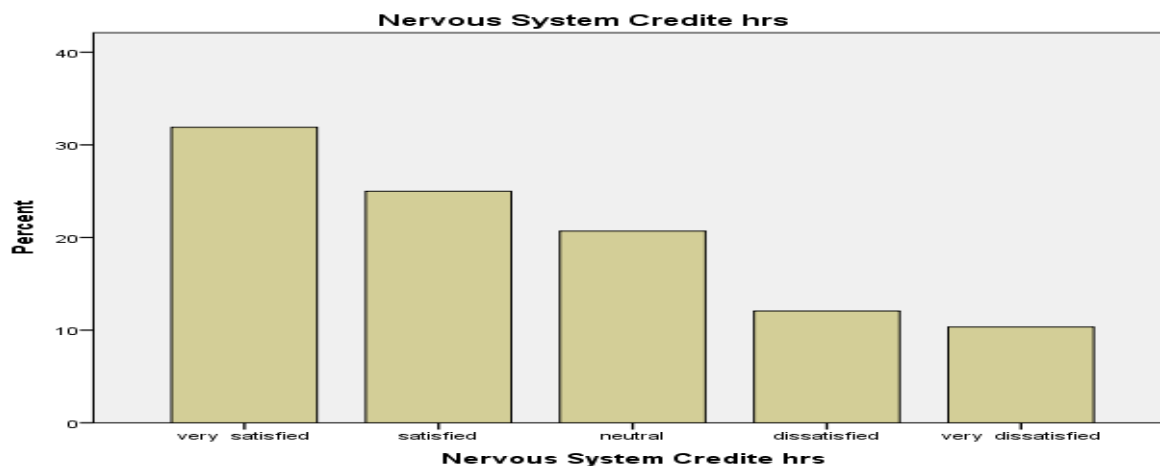


Figure 4.49: Frequency of the satisfaction rate of undergraduate medical students in IUA, Faculty of medicine in Nervous system credit hours in 2018 (n = 116)

About thirty eight percent of undergraduate medical students in IUA, Faculty of Medicine responded very satisfied in Nervous system content, followed by 31.9% responded very satisfied in its credit hours.

Urogenital system: most frequent response was "satisfied" in contents and "neutral" in the credit hours

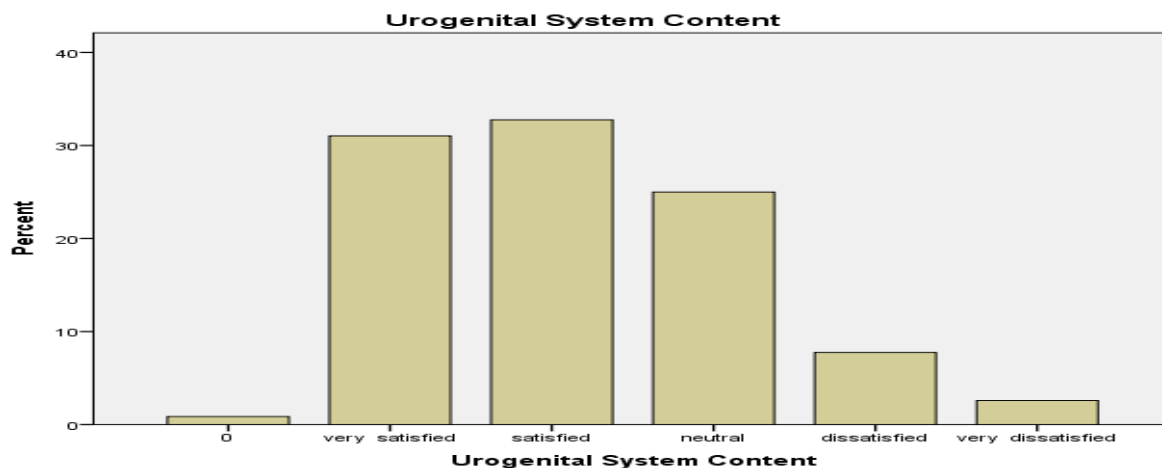


Figure 4.50: Frequency of the satisfaction rate of undergraduate medical students in IUA, Faculty of medicine in Urogenital system content in 2018 (n = 116)

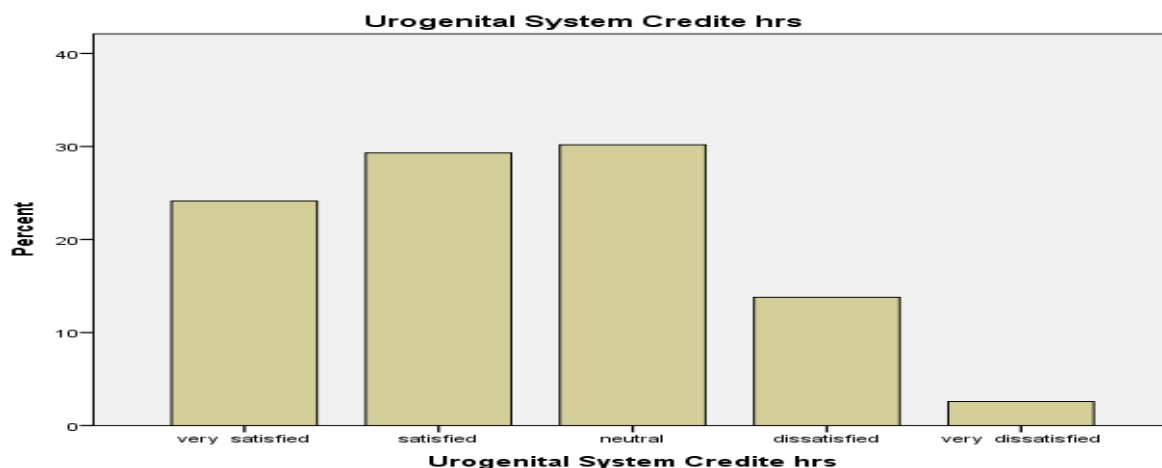


Figure 4.51: Frequency of the satisfaction rate of undergraduate medical students in IUA, Faculty of medicine in Urogenital system credit hours in 2018 (n = 116)

About thirty three percent of undergraduate medical students in IUA, Faculty of Medicine responded satisfied in Urogenital system content, followed by 30.2% responded neutral in its credit hours.

Forensic medicine: most frequent response was "very satisfied" in contents and "neutral" in the credit hours

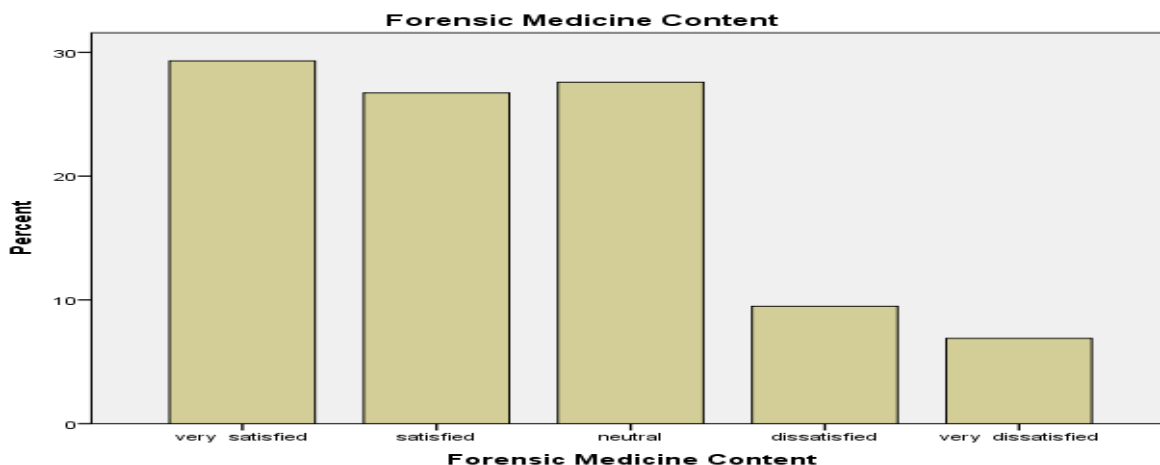


Figure 4.52: Frequency of the satisfaction rate of undergraduate medical students in IUA, Faculty of medicine in forensic medicine content in 2018 (n = 116)

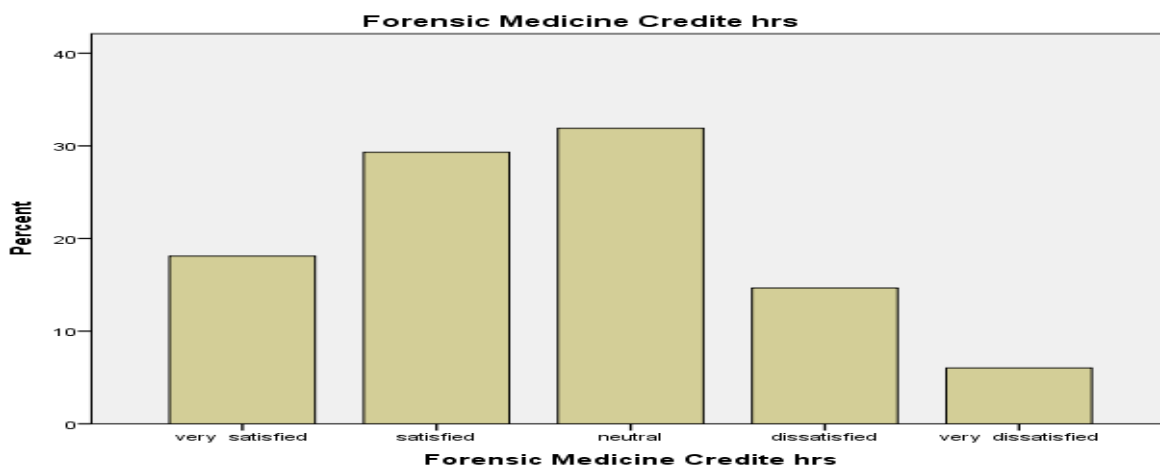


Figure 4.53: Frequency of the satisfaction rate of undergraduate medical students in IUA, Faculty of medicine in forensic medicine credit hours in 2018 (n = 116)

About twenty nine percent of undergraduate medical students in IUA, Faculty of Medicine responded satisfied in forensic medicine content, followed by 31.9% responded neutral in its credit hours

Endemic diseases: most frequent response was "very satisfied" in contents and "neutral" in the credit hours

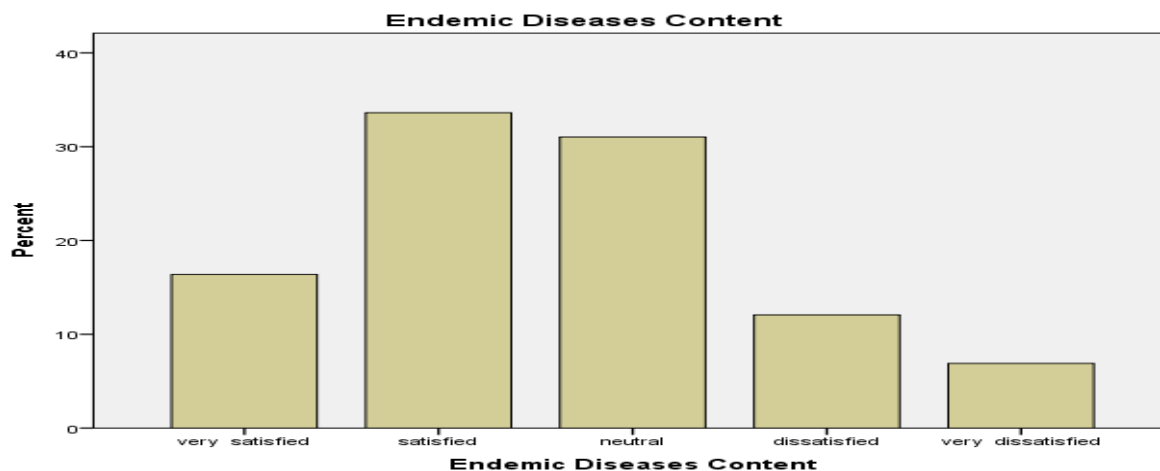


Figure 4.54: Frequency of the satisfaction rate of undergraduate medical students in IUA, Faculty of medicine in Endemic diseases content in 2018 (n = 116)

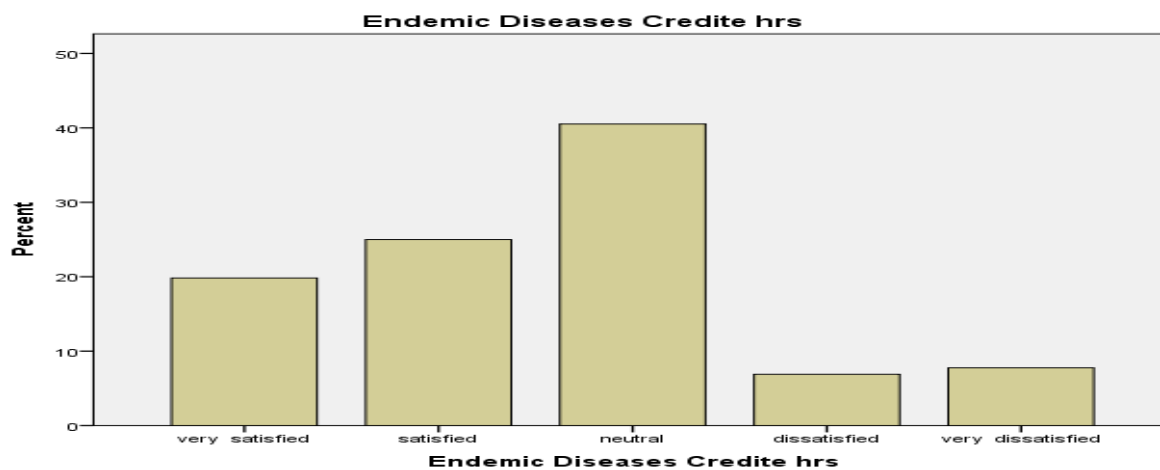


Figure 4.55: Frequency of the satisfaction rate of undergraduate medical students in IUA, Faculty of medicine in Endemic diseases credit hours in 2018 (n = 116)

About thirty four percent of undergraduate medical students in IUA, Faculty of Medicine responded satisfied in Endemic diseases content, followed by 40.5% responded neutral in its credit hours

Pharmacology and therapeutics: most frequent response was "dissatisfied" in both contents and credit hours.

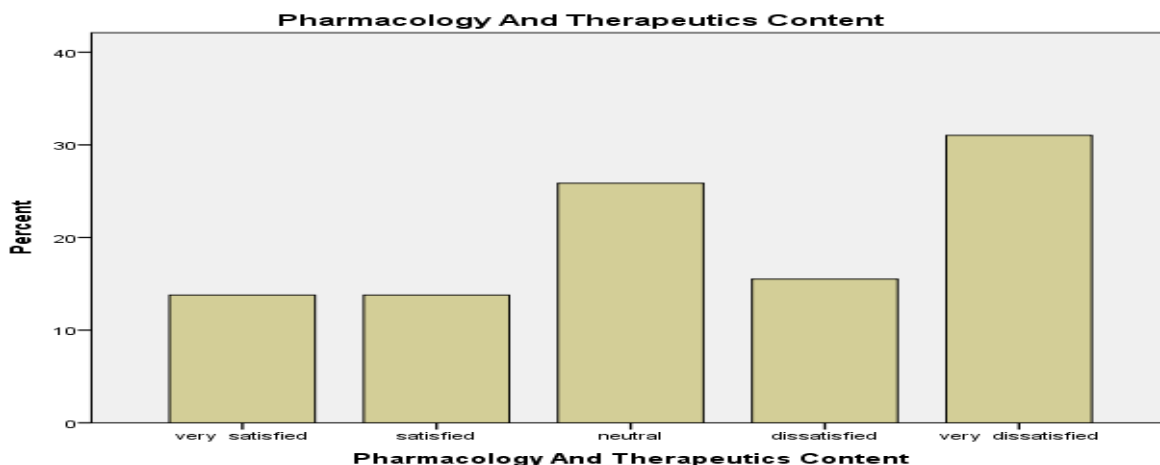


Figure 4.56: Frequency of the satisfaction rate of undergraduate medical students in IUA, Faculty of medicine in Pharmacology and therapeutics content in 2018 (n = 116)

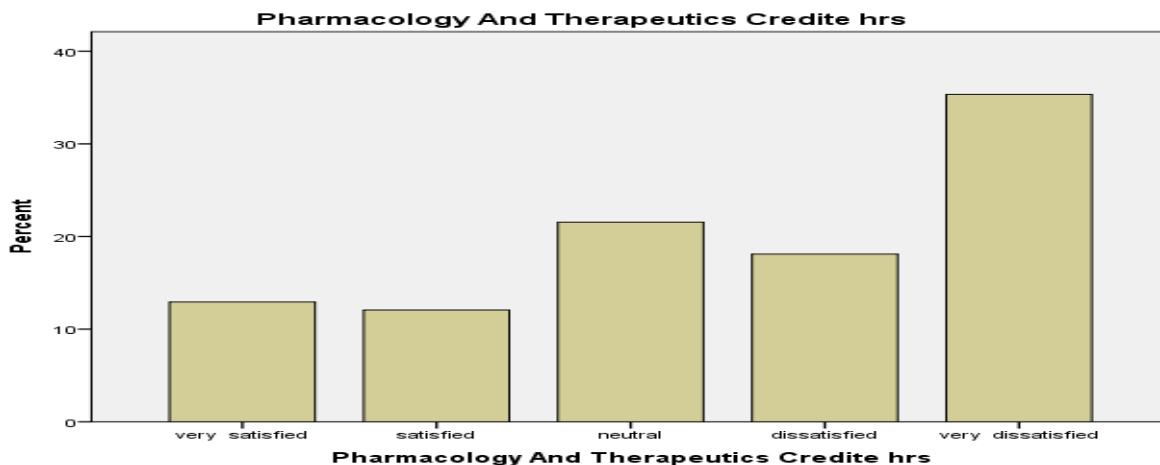


Figure 4.57: Frequency of the satisfaction rate of undergraduate medical students in IUA, Faculty of medicine in Pharmacology and therapeutics credit hours in 2018 (n = 116)

About thirty one percent of undergraduate medical students in IUA, Faculty of Medicine responded very dissatisfied in Pharmacology and therapeutics content, followed by 35.3% responded very dissatisfied in its credit hours.

Primary health care (3): most frequent response was "neutral" in both contents and credit hours

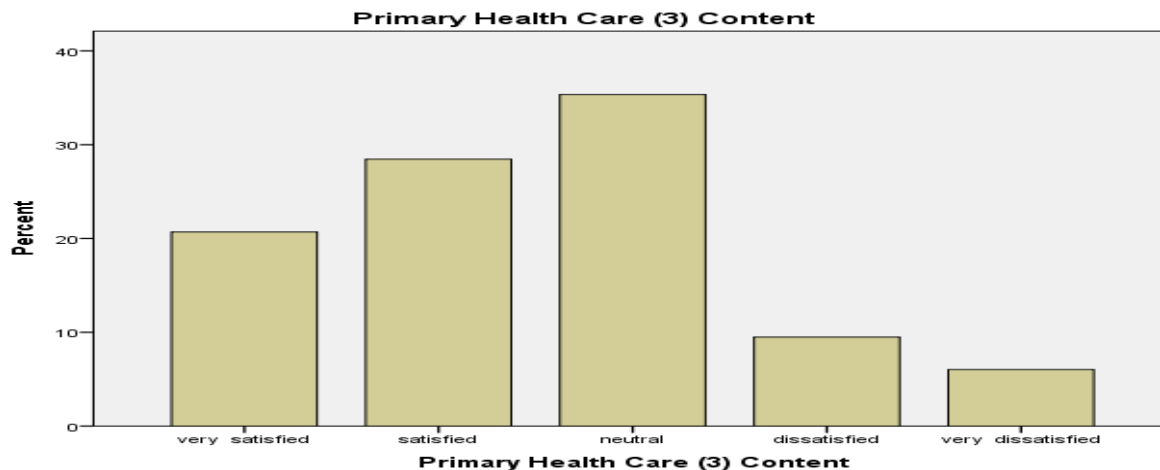


Figure 4.58: Frequency of the satisfaction rate of undergraduate medical students in IUA, Faculty of medicine in Primary health care (3) content in 2018 (n = 116)

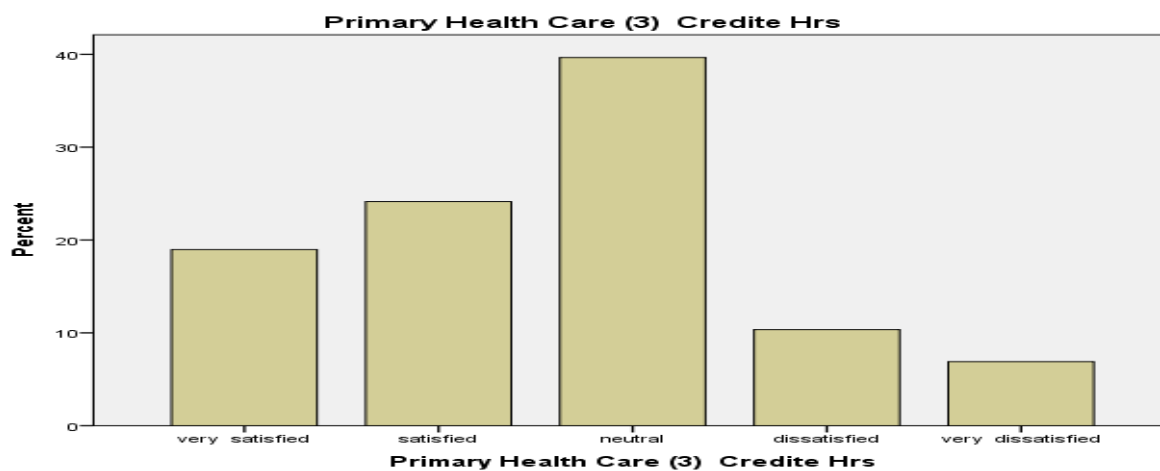


Figure 4.59: Frequency of the satisfaction rate of undergraduate medical students in IUA, Faculty of medicine in Primary health care (3) credit hours in 2018 (n = 116)

About thirty five percent of undergraduate medical students in IUA, Faculty of Medicine responded neutral in Primary health care (3) content, followed by 39.7% responded neutral in its credit hours.

4.2. Results of Group Discussion

1. Students complained about quality of teaching and methods of some teacher .
2. Students appraise the movement of the teacher during lectures and ask questions for discursion, they prefer the classical way (chalk / Board) or full PPT and explanation .
3. Pharmacology and histology and research methodology taught in short duration compared to the importance of these courses .In anatomy course the practice of teaching is poor and no supervisions in DR.The students complained of inadequate laboratories of biochemistry .They also complained intensive material of epidemiology and biostatistics .
4. Large number of students in groups, in PBL also large number of student in the group.
5. OSCE exam is satisfied but OSPE exam is not satisfied because the histology in exam is the sample of lecture without understanding .They also are satisfied about the MCQS and short notes.
6. Suggestion for improvement is to add history taking in pre clinical phase , increase the hours of some courses such as pharmacology , histology ,research methodology .Introducing emergency medicine and communication skills . In the preclinical phase counseling ,make workshop for the teachers to improve their skills in the way of teaching.
7. Increase the number of main textbooks and simplify the methods of lending .
8. 24 hours opening of electronic library .
9. Introducing the WIFI.
10. Students are complaining of credit hours of University requirements .
11. The Faculty Act is not clear.

4.3. Results of Interviews

1. Prof Basher Hamad (Professor of medical education):

*The curriculum is reviewed annually ,Each year there was a meeting for all head departments at the university and all problems that face the students and their solutions are raised to the College Committee to discuss and then develop appropriate solutions. Each course is evaluated by a questionnaire for student .

* The last review of the curriculum was two years ago, but now workshops are held to discuss the problems facing students and come out with different views but not implemented by some teachers.

* Students were participating in the review of the curriculum .

* An assessment committee will be formed called program evaluation committee so that it cares about evaluating the curriculum and preparing a questionnaire for students and professors that raised to a committee called co-committee and then all the problems are discussed in the College Committee then feedback are returned to Educational Center.

* There are representatives from outside the University for the review of the curriculum like the Council of medical specialties and others where they attend the OSPE and make a written report as an assessment of the students and evaluate the examination of basic subjects.

* Some professors are not entitled to make change in the contents of the curriculum, They should suggestions for the program evaluation committee ,and not to change the content by themselves .

* The reason for the weak study of basic materials is the new appointed teachers lack of sufficient experience in teaching. The solution is through training of the teachers .

* It is not necessary to develop a primary phase before semester one because all the basic material is taught in the first year such as Introduction to study medicine, Biology and Physics.

* The curriculum is evaluated through exams in the form of MCQS, Short answer, Short note ,OSPE, OSCE, Base Assessment . After the end of each course, a questionnaire is distributed to clarify the most important problems.

* Students are involved in the evaluation by bringing Coordinator of students in the course with the discussion and evaluation of the curriculum committee. It is necessary that the Dean should to conduct

an open discussion with students every month to discuss where he discusses the problems of students and solutions.

- * Communication skills are taught with PBL and do not need to be taught as separate.

- * Credit hours and duration of the courses is decided by the medical education center after the feed backs from students and teachers.

- *No matter the number of students. The problem is providing the adequate resource from from the University.

2. Prof Osman Al sheikh (Director of Medical Education Master Programme):

- * The first review of the curriculum was after graduation of the first batch of the Faculty of Medicine. The credit hours were reduced in 2 courses after the first workshop (Introduction to study medicine and University requirements).

- *In 2010-2011 a review committee suggested 12 semesters to include history taking ,communication skills and emergency medicine ,but 12 semesters was refused by the committee and decided that those topics to be included within the contents of pre and post clinical phase .

- * The last review of the curriculum was two years ago .

- * The students used to participate in the assessment of the curriculum, where they fill a questionnaire after the end of each course .

- * There are representatives from outside the university to review the curriculum attend annually from the University of Umm al-Qari, the Council of medical specialties and others to discuss curricula and how to put questions for exams and results in workshops.

- * The professors are not entitled to change the curriculum, but they have to submit a report to the coordinator of the course, submitted to the evaluation committee and then submitted to the College Council .

* The reason for the weakness of studying the basic courses is the diversity of student nationalities and the solution is to involve students in the lesson where end questions are placed to test their concentration. The PPL must be taught properly .

* The evaluation of the curriculum is carried out in two ways, the first of which is continuous assessment and contains assignments, seminars, PBL and OSPE exams and mid and the final exams where it contains MCQs and short notes, but there is a proposal to replace short note with extended matching question..

* I fully agree with the involvement of students in the evaluation because it is important to know their views and problems to resolve. Where the Dean annually to meet new students.

-To solve the problem of pharmacology is to study the pharmacology in Semester III as an introduction and then divided on all courses such as GIT and respiratory and so on. but for the courses of histology and anatomy is to know exactly where is the problem through a separate questionnaire.

* The number of students should be matching with the resources (teachers,halls,labs....etc).

* The new generation is quite different as they have a greater opportunity to learn as a result of the flood of knowledge . Teachers must change the way of teaching and prepare the lesson well and ask questions during the lectures to discuss students.

* The role of EDC is decreasing due to administrative problem .

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CHAPTER FIVE

DISCUSSION

Chapter Five

5. Discussion

The objectives of this study is to assess the Satisfaction among medical students regarding curriculum and Teaching Methodology in order to collect data for developing the curriculum to the policy-makers.

The data was collected from 116 students of approximately the same distribution of sex (table no 1).

The first asses course is introduction to the study of medicine in semester one. It is a longitudinal course having 2 CH. Students believe that the CH are adequate while third of them claimed from the contents (table 2 and 3). It consist with study was conducted by(Mahad Khalif Dhaqane ,Nor Abdulle Afrah 2016) studied the Satisfaction of Students and Academic Performance in Benadir ,they found that there is strong relationship between satisfaction of students and academic performance as Pearson correlation . And The satisfaction promotes both academic achievement and student retention (23).

Regarding the course of physics, half of the students (48%) are dissatisfied about the contents (table no 4 and 5). While there was a good satisfaction of the biochemistry course, both the contents and the credit hours (table 6 and 7). According the results of the interviews the main comments were about the teaching of the course (large numbers of students and inadequate laboratories). The same results were found about the course of biology; adequate credit hours and contents with the same problems of teaching; missing labs and poor tutorials due to inadequate facilities to train all the students. (table 8 and 9). Students had a high degree of satisfaction for the course of man and environment (10 and 11. There are some complaints about the inadequacy of the physiology laboratory.

The course of Epidemiology, biostatistics and research methodology of semester 2, the students are satisfied about the credit hours and the contents (table 10 and 11).it consist with the study was conducted by(Hyppölä H1, Kumpusalo E, Virjo I, Mattila K, Neittaanmäki L, Halila H, Kujala S, Luhtala R, Isokoski M 2000) to Evaluate of undergraduate medical education in Finnish community-oriented and traditional medical faculties: a 10-year follow-up. They found that Physicians who graduated from the community-oriented faculties were more satisfied with their undergraduate medical education when compared with their colleagues graduating from traditional faculties (11).When the students where interviewed during the focus group discussion they claimed about the intensive materials of the courses.

Regarding the course of Growth and development third of students were satisfied for content and credit hours (table no 14 and 15).there are some student complain about the quality of teaching of histology as a part of this course .it consisted with the study conducted by (Bushra Manzar¹ and Nabeel Manzar -2011) To determine the level of satisfaction among medical students of a public sector medical university regarding their academic activities They found that Most of the students (57.2%) were dissatisfied with the quality of teaching in the university and Most of the students (66.1%) wanted the university to conduct career planning seminars to help them plan their career it similar to suggestion of student in group discussion in this study (8).

40.5% The students were satisfied in Medical jurisprudence and medical ethics course and 33.6 for credit hour (table 16 and 17).

The course of Nutrition and its biochemistry the students are satisfied about the credit hours and the contents (table 18 and 19). It not consist with study was conducted by (Ramesh Ramasamy, NiRaNjaNGoPal, sRiNivasaN aR, sathish BaBu muRuGaiyaN ,2013) to study Planning an Objective and Need Based Curriculum: The Logistics with Reference to the Undergraduate Medical Education in Biochemistry they found that Rapid changes in the content of the curriculum may not be required, but a gradual introduction of the novel approach and the methods of teaching biochemistry can be adopted into the curriculum. (25).

All student were satisfied in Field work content and it credit hour (table 20 and 21). It consist with study conducted by (Hui-Hui WANG ,Stephan P. CARLSON,2011) to study Factors that Influence Student's Satisfaction in an Environmental Field Day Experience to study, they found that presenters, social content, and learning related condition are critical criteria to improve students' satisfaction in a field day experiences (26).

Regarding the course of Loco-motor system and its problems , the student were satisfied to content and credit hour (table 24 and 25).And also satisfied in Introduction to pathology content and credit hours (table 22 and 23).

The respond of student regarding to Primary health care (1) is neutral in content and credit hour (table 26 and 27).When the students where interviewed during the focus group discussion they claimed about the repetition of the content .

The respond is also neutral in the course of Introduction to education and psychology , content and it credit hour (table 28 and 29).

All most of student were satisfied to Respiratory system , content and credit hour (table 30 and 31).When the students where interviewed during the focus group discussion they claimed about the Anatomy course ,the practice of teaching is poor and no supervisions in DR.

All the student were satisfied to the course of Cardiovascular system , content and credit hour (table 32 and 33).during the focus group discussions the student s were complained about the practice of teaching in histology .

Most of student were satisfied in Hematology ,course and credit hour (table 34 and 35).

Regarding to the course of Basic skills, the student were satisfied to content and credit hour (table 36 and 37). during the focus group discussions the students were complained about the large number of student in groups .it consist with the study conducted by (Polly Lama, Jyoti Kulkarni, Binod K Tamang, Pranoti Sinha 2015) to study The impact and significance of small and large group teaching and learning in medical curriculum,they found that both small and large group teaching has its advantages and disadvantages, but the impact left by small group teaching and learning is far greater as it is observed that through. large group teaching and learning is essentially a one way process, while small group teaching is more focused, interactive, and leads to the development of concepts principles (24).

The respond of student in Primary health care (2) , was neutral to content and credit hour (table 38 and 39).

Students had a high degree of satisfaction for the course Gastrointestinal tract (1) , content and credit hour (table 40 and 41).but were satisfied in Gastrointestinal tract (2), content and credit hour (table 42 and43).during the focus group discussions the The majority of students were not satisfied from PBL because of high number of student per group , that was different with the study conducted by (Nandi PL1, Chan JN, Chan CP, Chan P, Chan LP-2000) in Undergraduate medical education to comparison of problem-based learning and conventional teaching they found that Students of the problem-based learning curriculum found learning to be "more stimulating and more humane" and "engaging, difficult, and useful" (13).

Regarding the course of Oral and dental health, it had a high degree of satisfactoriness , in content and credit hour (table 44 and 45).When the students where interviewed during the focus group discussion they claimed about the intensive materials of the course .

Students had a high degree of satisfaction for the course of Endocrinology and metabolism , content and credit hour (table 46 and 47). And also had high degree of satisfaction for the course Nervous system ,content and credit hour (table 48 and 49).The majority of students from focus group discussion were satisfied from mode of assessment specially MCQS and OSCE exam ,it is similar to study was conducted by (Redhwan A. Al-Naggar¹*, Yuri V. Bobryshev²-2012) about Satisfaction from Academic Activities among Medical Students in Malaysia the majority of the students prefer MCQ (33.5%) followed by MEQ (30%), SEQ (18%) and OSPE/OSCE (18.5%) -(13).

32.8% were satisfied for the course Urogenital system content and neutral in credit hour (table 50 and 51).

There were high degree of satisfaction regarding the course of Forensic medicine (table 52 and 53). And also in course of Endemic diseases table (54 and 55).

Regarding the course of Pharmacology and therapeutics ,the students were very dissatisfied for this course content and credit hour (table 56 and 57).When the students where interviewed during the focus group discussion they claimed that , the course taught in short duration compare to the importance of this course,there suggestion was to study introduction pharmacology first and then divided there content with other courses .And it not similar to the study of Perception of medical students about pharmacology and scope of improvement was conducted by (Prasad A1, Datta PP, Pattanayak C, Panda P. 2014) in a private medical college in eastern India among the medical undergraduate students in 5th semester ,Total 74 students participated in the study,They found The subject was perceived as interesting and useful by majority of students and most of them were in opinion to integrate pharmacology with the clinical subjects (21).

The respond was neutral in Primary health care (3) course , content and credit hour. (table 58 and 59).

-The key persons (Prof. Basheer Hamad and Prof. Osman Elsheikh), believe that the large number of students is not a problem if the resources are adequate. Professor Osman believe in the high need for increasing the laboratory facilities, staff and tutors.

It consist with the study was conducted by(Luca Petruzzellis ,Angela Maria D’Uggento,Salvatore Romanazzi -2014) to study Student satisfaction and quality of service in Italian universities , they found that Universities have to concentrate their efforts on the improvement of quality of teaching and non-teaching services, in order to promptly respond to the target, and foster a stronger relationship with surrounding economic and productive systems.

The professors believe that the curriculum development should be reviewed every 2-5 years. The last curriculum development workshop was held in 2016. A lot of workshops were before the beginning of the semesters to review the contents, teaching and assessment. The problem is some case is that the teachers do not implement the recommendation of the workshops.

Both of them were fully agree with the involvement of students in the evaluation because it is important to know their views and problems to resolve . It similar with study was conducted by (De Oliveira DFM1, Simas BCC1, Guimarães Caldeira AL1, Medeiros AGE1, Freitas MR1,2, Diniz J Jr3, Diniz R4.-Feb -2018) in the School of Medicine of Federal University of Rio Grande Do Norte, A traditional curriculum with innovative trends in medical education, A group of students and teachers revised the new curriculum and established the key changes over the past years that have been responsible for the local enhancement of medical education. They found that Improvements in faculty development have been fairly observed in the institution, exemplified by the participation of a growing number of faculty members in programs for professional development (18).

Continuous monitoring and evaluation of the curriculum to assess the shortage and identify gaps and redundancies in UGME and deliberate implementation it nessesary and important .it was a commented by both professors.

Chapter six

LIMITATION , CONCLUSIONS AND RECOMMENDATIONS

Chapter six

6. Limitations, Conclusions and Recommendations

6.1. Limitations:

During conducting this research the University stated new policies of assessment and evaluation .The exams were changed to electronic exams and evaluation of the students was also electronic immediately after exams.The University decided to delete all paper examinations and central committee for examinations was established .Smart boards were introduced in each class and the University is encouraging interactive lectures.

6.2. Conclusions :

* The findings of the questionnaire indicate general satisfaction rate of undergraduate medical students in IUA, Faculty of medicine in their courses. Findings show that all courses` contents and credit hours are very good or good and some rated as neutral, except two courses that are oral and dental health and pharmacology and therapeutics shows that are very dissatisfied.

* According to the group discussion findings discovered that students are not satisfied in the quality of teaching of basic science, furthermore Pharmacology and Anatomy & Histology courses are studied in short duration compared by the large content of the course and there is a large number per group in PBL and TBL compared to the students teachers ratio

* Findings of interviews show that last review of the curriculum was before two years ago while is required to review annually and students participate in the review process by filling a questionnaire at the end of each course, but there is an annual workshop for assessment of the curriculum which raise recommendations but not implemented.

6.3. Recommendations:

1. Revision of the contents, methods of teaching and evaluation of the Oral and Dental Health Course and the semester in which should be taught.
2. Revision of pharmacology course; duration and contents.
3. The DR should be given high emphasis and should be developed
 - a. To increase the number of quality staff
 - b. Introduction of new technologies in teaching anatomy
4. New policies should be developed to practical tools to solve the problem of teachers commitment to the recommendations of the workshops.
5. Assessment of students should be developed and adapted to the University System of Evaluation.
6. The programme evaluation committee should be encourage to evaluate and assess the curriculum contents and credit hours regularly. A system should be developed and students should be involved.
7. Any change in the contents of the course should be done systematically through the departments and the medical education center.
8. More efforts to be given to develop the EDC center.
9. Faculty should enhance regular workshops for the teaching of new staff and students, through the EDC regarding:
 - a. Teaching and learning
 - b. Community oriented medical ethics
 - c. Students' assessment
 - d. Curriculum development
10. More researches to evaluate :
 - a. Electronic exams
 - b. Teaching with smart boards
 - c. The evaluation system and the coordination between the central committee of examination and faculty of medicine.
 - d. Reviewing the Faculty Act.

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Annexes

Annex 1: Questionnaire

International University Of Africa

Faculty Of Medicine

MPH

Questionnaire

Research on : (**Satisfaction Among Medical Students regarding Curriculum and Teaching Methodology faculty of medicine- International University Of Africa -2018**).

Background information for student Questionnaire:-

-Gender : male female

5=Very satisfied 4= satisfied 3= Neutral 2= dissatisfied 1= Very dissatisfied

Please insert √ in appropriate place in content and credit hours :-

| curriculum | Content & credit hrs | Very satisfied | satisfied | neutral | dissatisfied | Very dissatisfied |
|---------------------------------------|-----------------------|----------------|-----------|---------|--------------|-------------------|
| Introduction to the Study of Medicine | content | | √ | | | |
| | Credit hrs: 2 | | | √ | | |
| Medical Physics | Content | | | √ | | |
| | Credit hrs: 3 | | | | √ | |
| Chemistry and basic biochemistry | Content | | | √ | | |
| | Credit hrs : 4 | | | √ | | |
| Cell and Human Biology | Content | | | | | |
| | Credit hrs: 4 | | √ | | | |
| Man and Environment | Content | | | √ | | |

| | | | | | | |
|--|-----------------------|---|---|---|---|--|
| | Credit hrs : 4 | | √ | | | |
| Introduction to Epidemiology, Medical Biostatistics and Research Methodology | Content | | | √ | | |
| | Credit hrs: 3 | | √ | | | |
| Growth and Development | Content | | | √ | | |
| | Credit hrs: 4 | | | √ | | |
| Medical Jurisprudence and Medical Ethics | Content | √ | | | | |
| | Credit hrs : 2 | | √ | | | |
| Nutrition and its Biochemistry | Content | | √ | | | |
| | Credit hrs: 5 | | | √ | | |
| Fieldwork | Content | | | √ | | |
| | Credit hrs : 3 | | √ | | | |
| Introduction to Pathology | Content | | | √ | | |
| | Credit hrs: 8 | | √ | | | |
| Loco motor system and its problems | Content | | | √ | | |
| | Credit hrs: 8 | | √ | | | |
| Primary Health Care (1) | Content | | | √ | | |
| | Credit hrs: 2 | | √ | | | |
| Introduction to Education and Psychology | Content | | | | √ | |
| | Credit hrs: 1 | | | √ | | |

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|------------------------------|-----------------------|---|---|---|---|--|
| Respiratory system | Content | | | | √ | |
| | Credit hrs: 6 | | | √ | | |
| Cardiovascular System | Content | | | | √ | |
| | Credit hrs : 8 | | | √ | | |
| Hematology | Content | | | | √ | |
| | Credit hrs:4 | | | √ | | |
| Basic Skills | Content | | | | √ | |
| | Credit hrs: 3 | | | √ | | |
| Primary Health Care (2) | Content | √ | | | | |
| | Credit hrs: 3 | | √ | | | |
| Gastrointestinal Tract (1) | Content | | | √ | | |
| | Credit hrs: 6 | | √ | | | |
| Gastrointestinal Tract (2) | Content | | | √ | | |
| | Credit hrs: 6 | | √ | | | |
| Oral and Dental Health | Content | | | √ | | |
| | Credit hrs: 2 | | √ | | | |
| | | | | | | |
| Endocrinology and Metabolism | Content | | √ | | | |
| | Credit hrs : 6 | | | √ | | |
| Nervous System | Content | | | √ | | |
| | Credit hrs: 8 | | √ | | | |
| Urogenital system | Content | | √ | | | |
| | Credit hrs: 8 | √ | | | | |
| Forensic Medicine | Content | | | √ | | |

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|----------------------------------|-----------------------|--|---|---|---|---|
| | Credit hrs: 3 | | √ | | | |
| Endemic diseases | Content | | | √ | | |
| | Credit hrs : 3 | | √ | | | |
| Pharmacology and Therapeutics | Content | | | | | √ |
| | Credit hrs: 2 | | | | | √ |
| Primary Health Care 3 | Content | | | | √ | |
| | Credit hrs: 3 | | | √ | | |

Annex 11: Check list for Group Discussion:-

Students view regarding curricular system:-

- 1-The quality of teaching and lectures in the university is satisfactory .
- 2-Current teaching practices i.e. lectures help ace local examination as well as international exams like USMLE & PLAB ,MRC, etc
- 3-You are satisfied with the semester system .
- 4-Multiple mode's of assessment help improve your knowledge and clinical skills.
- 5-The pattern of OSCE/OSPE is satisfactory.
- 6-Students suggestions for improvement in regards to academic activities .
- 7-Best form of assessment is MCQ , BCQ ,Short Q/A , Descriptive .
- 8-University should have a lending library/bone bank .
- 9-Up to date computers should be provided in your digital library .
- 10-Career counseling help should be provided by the university .